

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: JANIS DOTE Examiner #: 68274 Date: 11/30/04
 Art Unit: 1756 Phone Number-30571-272-1382 Serial Number: 10/734,380
 Mail Box and Bldg/Room Location: REM 9C75 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Imaging Member

Inventors (please provide full names): SATCHIDANAND MISHRA, HOUY YUH, ANTHONY HORGAN, MARKUS SILVESTRI, ROBERT YU, YUANHUA TONG, DALE RENFER, KENNY TUAN DINH, GEOFF FOLEY, JACK YANUS, TIMOTHY FULLER
 Earliest Priority Filing Date: 12/16/02

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

See formula (11) in claim 19. SCIENTIFIC REFERENCE BR
 See attached claim 19. Sci. & Tech. Inf. Ctr
 NOV 30

Pat. & T.M. Office

STAFF USE ONLY

Searcher: EJ
 Searcher Phone #: _____
 Searcher Location: _____
 Date Searcher Picked Up: _____
 Date Completed: 12-3-04
 Searcher Prep & Review Time: _____
 Clerical Prep Time: _____
 Online Time: _____

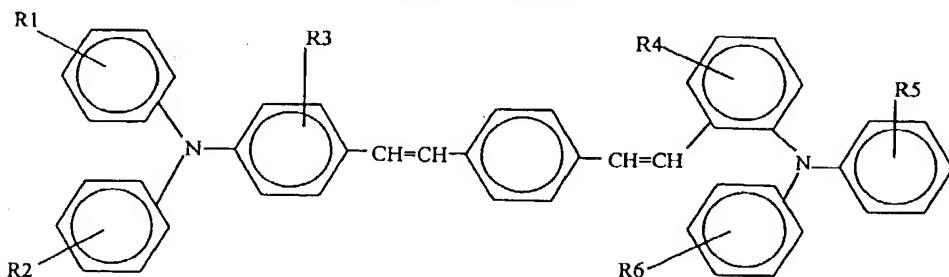
Type of Search

Vendors and cost where applicable

NA Sequence (#)	STN
AA Sequence (#)	Dialog
Structure (#)	Questel/Orbit
Bibliographic	Dr. Link
Litigation	Lexis/Nexis
Fulltext	Sequence Systems
Patent Family	WWW/Internet
Other	Other (specify)

5 19. The imaging member of **claim 10**, wherein the high mobility charge transport molecules are of the formula

FORMULA (II)



=> file reg

FILE 'REGISTRY' ENTERED AT 12:49:37 ON 03 DEC 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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L1 STR

FILE 'REGISTRY' ENTERED AT 12:24:57 ON 03 DEC 2004
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L3 SCR 1844
L4 0 S L1 AND L3
L5 SCR 1610
L6 21 S L1 AND L3 AND L5
L7 963 S L1 AND L3 AND L5 FUL
SAV L7 DOT380/A

FILE 'LREGISTRY' ENTERED AT 12:30:02 ON 03 DEC 2004
L8 STR L1

FILE 'REGISTRY' ENTERED AT 12:31:00 ON 03 DEC 2004
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L10 STR L8
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L12 359 S L10 SSS FUL SUB=L7
SAV L12 DOT380A/A

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L14 92101 S (CHARG? OR HOLE# OR ELECTRON# OR E) (2A) (TRANSPORT? OR M
L15 334 S L12
L16 548 S L7
L17 58 S L15 AND L13
L18 217 S L15 AND L14
L19 49 S L17 AND L18
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L21 301 S L16 AND L14
L22 72 S L20 AND L21
L23 48 S L19 AND (1900-2002/PY OR 1900-2002/PRY)
L24 23 S L22 NOT L19
L25 22 S L24 AND (1900-2002/PY OR 1900-2002/PRY)
L26 80619 S (IMAGE# OR IMAGING# OR IMAGEAB? OR PHOTOIMAG?)/TI
L27 17279 S ((CHARG? OR HOLE# OR ELECTRON# OR E) (2A) (TRANSPORT? OR

Date 10/734, 380

Page 2

L28 16 S L25 AND (L26 OR L27)
L29 7 S L25 AND L26 AND L27

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L31 240 S L30 AND L12

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L33 259 S L31
L34 23 S L33 AND L13 AND L14
L35 25 S L32 AND L13 AND L14
L36 25 S L34 OR L35
L37 25 S L36 AND (1900-2002/PRY OR 1900-2002/PY)

FILE 'REGISTRY' ENTERED AT 12:49:37 ON 03 DEC 2004

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1 2 3 4 5 6 7 8 9	

NODE ATTRIBUTES:

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GGCAT IS UNS AT 3
GGCAT IS UNS AT 4
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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE

L3 SCR 1844
L5 SCR 1610
L7 963 SEA FILE=REGISTRY SSS FUL L1 AND L3 AND L5

L10 STR

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{	}
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1 2 3 4 5 6 7 8 9	

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GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE

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100.0% PROCESSED 963 ITERATIONS
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359 ANSWERS

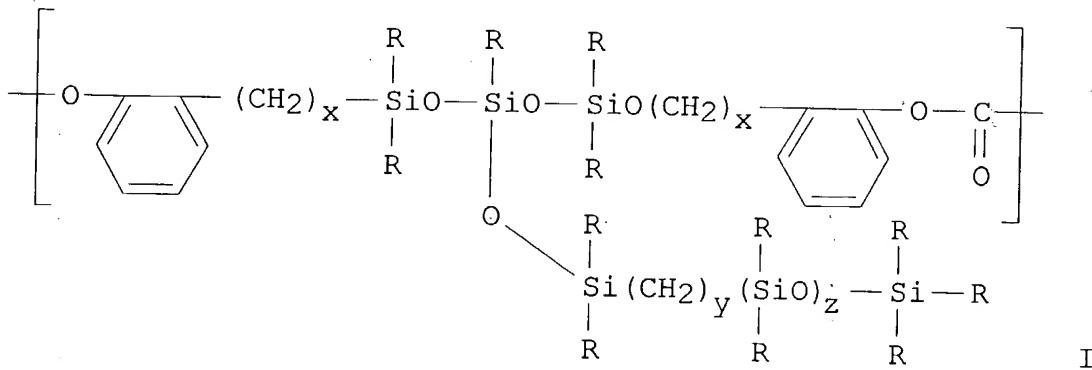
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 COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

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L37 ANSWER 1 OF 25 HCA COPYRIGHT 2004 ACS on STN
 140:383062 Electrophotographic organic photoreceptor and **image**

forming apparatus. Azuma, Jun; Ueda, Hiroyuki; Nagashima, Takashi; Watanabe, Yukimasa; Okada, Hideki; Inagaki, Yoshio (Kyocera Mita Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2004133067 A2 20040430, 29 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-295422 20021008.

GI



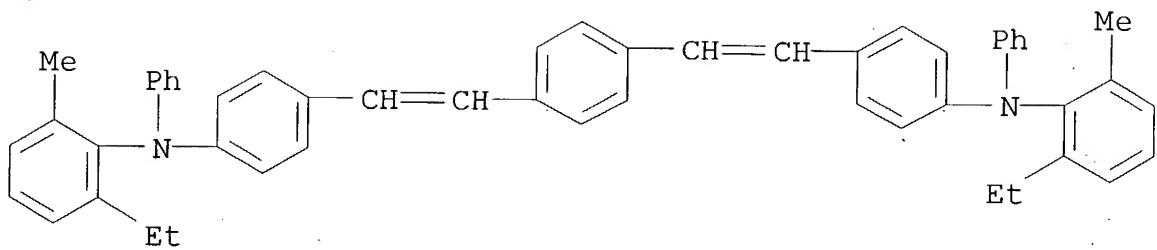
AB The app. comprises an org. photoreceptor and charging, exposing, developing, transferring, cleaning means, and an optional paper sepg. means adjacent to the transfer means, and neg. potential is applied to the transferring and/or the paper sepg. means, in which (1) the cleaning means is equipped with a fur brush made of polymer having pos. charging property to the binder resin in the photoreceptor outermost layer and (2) all the **charge-transporting** agent in photoreceptor outermost layer has inorg./org. ratio ≤ 1.0 to ≥ 0.6 . The photoreceptor outermost layer contains polycarbonate contg. structural unit I [R = (un)substituted hydrocarbyl; x, y = 1-6; z = 0-200] at 0.05-1 mol% as a binder. Adhesion of talc and elec. potential lowering are prevented in reversal development.

IT 254897-50-2

(pos. **hole-transporting** agent; electrophotog. photoreceptor contg. polysiloxane-polycarbonate binder in outermost layer)

RN 254897-50-2 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



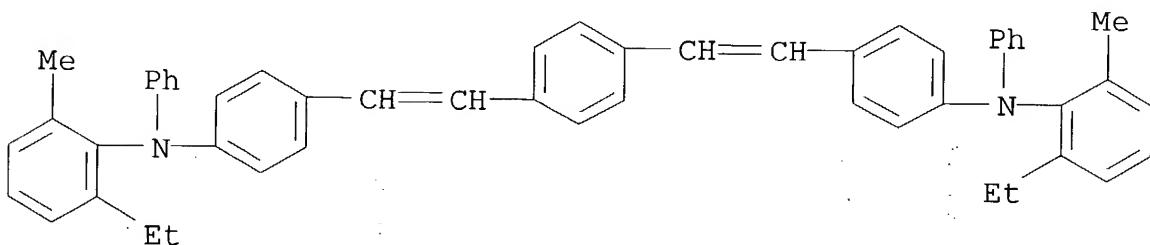
IC ICM G03G005-06
 ICS G03G005-05; G03G015-16; G03G021-10
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 Section cross-reference(s): 38
 ST electrophotog app cleaning means fur brush pos charging;
charge transporting agent inorg org value;
 polycarbonate polysiloxane binder photoreceptor electrophotog
 IT 2455-14-3 126657-30-5 140681-19-2 189197-19-1 270578-51-3
 334634-19-4 682760-06-1
 (**electron-transporting** agent; electrophotog.
 photoreceptor contg. polysiloxane-polycarbonate binder in
 outermost layer)
 IT 254897-50-2
 (pos. **hole-transporting** agent; electrophotog.
 photoreceptor contg. polysiloxane-polycarbonate binder in
 outermost layer)

L37 ANSWER 2 OF 25 HCA COPYRIGHT 2004 ACS on STN
 140:10558 Electrophotographic photoreceptor and **image-forming**
 apparatus with flash fixing means. Azuma, Jun; Watanabe, Yukimasa;
 Yashima, Ayako (Kyocera Mita Industrial Co., Ltd., Japan). Jpn.
 Kokai Tokkyo Koho JP 2003337436 A2 20031128, 40 pp. (Japanese).
 CODEN: JKXXAF. APPLICATION: JP 2003-51889 20030227. PRIORITY: JP
 2002-71418 20020315.
 AB In the photoreceptor comprising a support successively coated with a
 charge-generating layer and a **charge-transporting**
 layer, the **charge-transporting** agent has half
 width wavelength of the absorption peak at visible light range that
 the flash fixing light has .gtoreq.0.5 times of its max. intensity
 and except the exposure wavelength. The app. comprising a charging,
 exposing, developing, and transferring, and flash fixing means is
 also claimed. Even when the photoreceptor is exposed to
 flash-fixing light, charging dot is not generated on the
 photoreceptor and the photoreceptor shows high sensitivity and good
 charging property in repeated use.
 IT 254897-50-2

(pos-hole transporting agent; electrophotog.
photoreceptor using **charge-transporting** agent
absorbing flash fixing light)

RN 254897-50-2 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



IC ICM G03G005-06
ICS G03G015-20

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST electrophotog app flash fixing light wavelength; **charge transporting** agent flash fixing light absorption

IT Electrophotographic apparatus

Electrophotographic photoconductors (photoreceptors)
(electrophotog. photoreceptor using **charge-transporting** agent absorbing flash fixing light)

IT 26201-32-1, Titanyl phthalocyanine
(charge-generating agent; electrophotog. photoreceptor using **charge-transporting** agent absorbing flash fixing light)

IT 270578-51-3 603139-02-2
(**charge-transporting** agent; electrophotog. photoreceptor using **charge-transporting** agent absorbing flash fixing light)

IT 254897-50-2
(pos-hole transporting agent; electrophotog. photoreceptor using **charge-transporting** agent absorbing flash fixing light)

L37 ANSWER 3 OF 25 HCA COPYRIGHT 2004 ACS on STN

139:330295 Method for electrophotographic **image** formation, especially for adjusting charging condition according to wear of photoreceptor surface. Azuma, Jun; Watanabe, Yukimasa; Fujishima, Masayuki; Nagashima, Takashi; Sakane, Hironori; Tanaka, Takashi; Hikosaka, Ariyoshi (Kyocera Mita Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003295528 A2 20031015, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-95487 20020329.

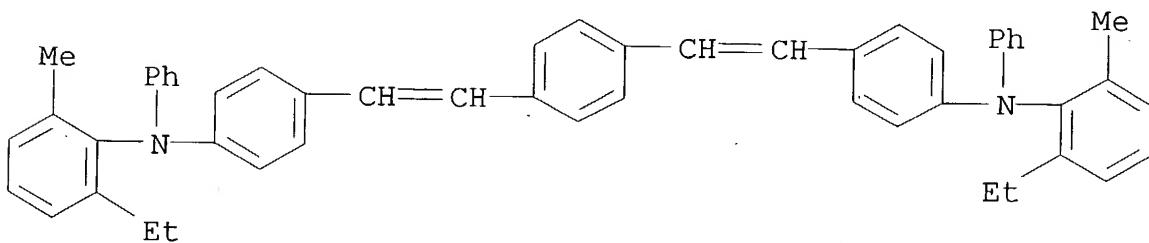
AB The title method uses an org. monolayer photoreceptor, which has good charge maintenance and provides linear corelation of the off-current and the on-current after repeated usage. The method provides easy setting of surface elec. voltage of the photoreceptor according to the wearing of the photoreceptor surface.

IT 254897-50-2

(electrophotog. photoreceptor)

RN 254897-50-2 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



IC ICM G03G015-00

ICS G03G005-06; G03G015-02

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST method electrophotog **image** charging photoreceptor

IT Electrophotography

(method for electrophotog. **image** formation, esp. for adjusting charging condition accruing to wear of photoreceptor surface)

IT 254897-50-2

(electrophotog. photoreceptor)

IT 126657-30-5

(**hole-transporting** agent; electrophotog. photoreceptor)

L37 ANSWER 4 OF 25 HCA COPYRIGHT 2004 ACS on STN

139:330272 Method for electrophotographic **image** formation

using positively charging monolayer-type organic electrophotographic photoreceptor. Inagaki, Yoshio (Kyocera Mita Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003295487 A2 20031015, 17 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-98030 20020329.

AB The title method, which uses a pos. charging monolayer-type org. electrophotog. photoreceptor and contains a cleaning process of residual toner on the photoreceptor, includes the steps of: measuring the thickness of the light-sensitive layer of the photoreceptor and charging amt. of the photoreceptor; calcg. the exposure intensity, which shows $I_{toreq} \geq 26$ V variation after

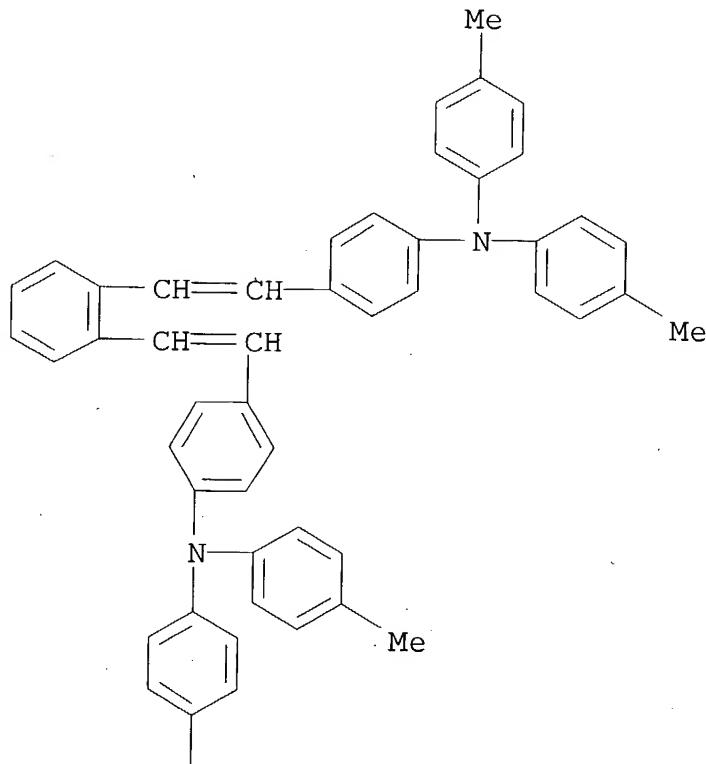
exposure on the light-sensitive layer having $\geq 15 \mu\text{m}$ difference in the thickness. The method uses a phthalocyanine charge-generating agent, naphthoquinone **charge-transporting** compd., and a stilbene-based **hole-transporting** compd. The method provides const. light intensity for photoreceptor exposure after surface wearing of the photoreceptor.

IT 55035-45-5 119564-31-7 254897-50-2
 267409-41-6 286851-40-9 612808-08-9
 (hole transporting agent; electrophotog.
 photoreceptor)

RN 55035-45-5 HCA

CN Benzenamine, 4,4'-(1,2-phenylenedi-2,1-ethenediyl)bis[N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

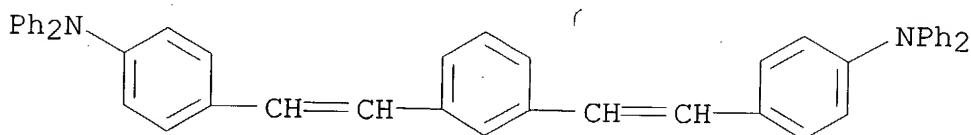
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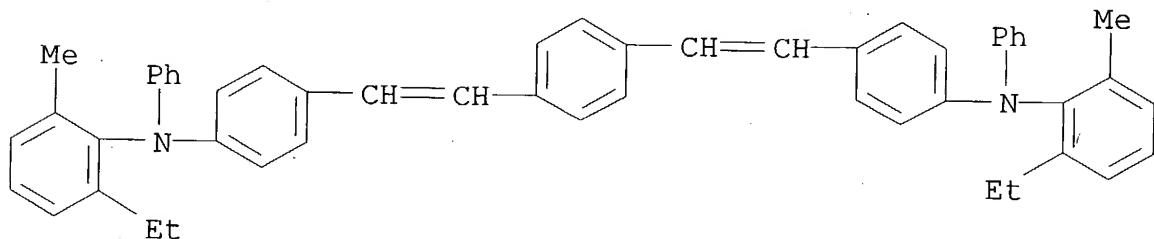
PAGE 2-A



RN 119564-31-7 HCA

CN Benzenamine, 4,4'-(1,3-phenylenedi-2,1-ethenediyl)bis[N,N-diphenyl-
(9CI) (CA INDEX NAME)]

RN 254897-50-2 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-
methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)]

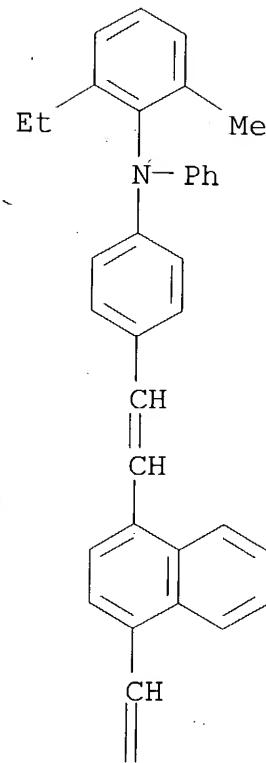
RN 267409-41-6 HCA

CN Benzenamine, 4,4'-(1,4-naphthalenediyl-2,1-ethenediyl)bis[N-(2-
ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)]

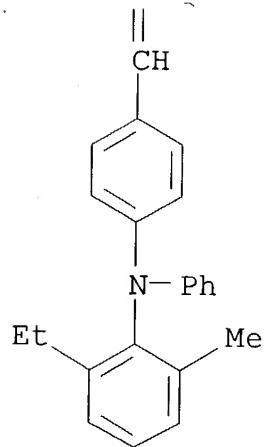
Date 10/734, 380

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PAGE 1-A



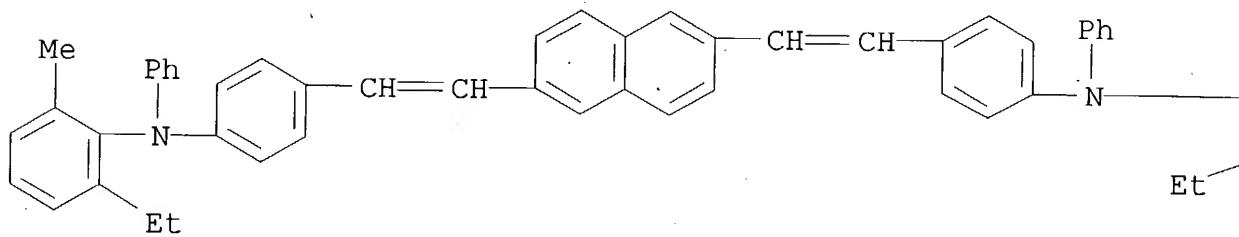
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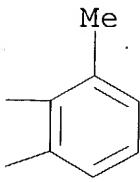
RN 286851-40-9 HCA

CN Benzenamine, 4,4'-(2,6-naphthalenediyldi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

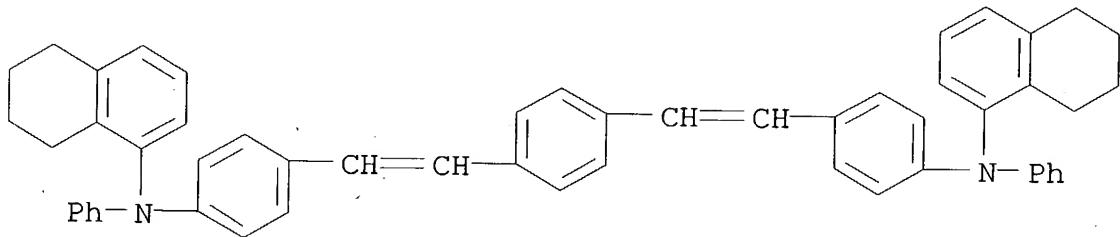


PAGE 1-B



RN 612808-08-9 HCA

CN 1-Naphthalenamine, N,N'-[1,4-phenylenebis(2,1-ethenediyl-4,1-phenylene)]bis[5,6,7,8-tetrahydro-N-phenyl- (9CI) (CA INDEX NAME)



IC ICM G03G005-06

ICS G03G015-00

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST electrophotog **image** org photoreceptor

IT Electrophotographic photoconductors (photoreceptors)
(method for electrophotog. **image** formation using pos.
charging org. electrophotog. photoreceptor)

IT 148808-97-3 189197-19-1

(electron-transporting agent; electrophotog.
photoreceptor)

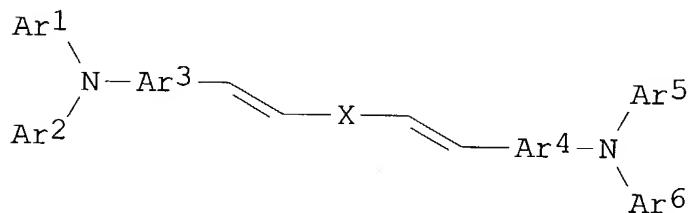
IT 55035-45-5 119564-31-7 254897-50-2
267409-41-6 286851-40-9 393586-85-1
612808-08-9

(hole transporting agent; electrophotog.
photoreceptor)

L37 ANSWER 5 OF 25 HCA COPYRIGHT 2004 ACS on STN

139:314426 Electrophotographic photoreceptor containing distyryl compound as **charge-transporting** agent and **image** forming apparatus. Inagaki, Yoshio; Sugai, Akio (Kyocera Mita Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003287912 A2 20031010, 62 pp. (Japanese). CODEN: JKXXAF.
APPLICATION: JP 2002-89480 20020327.

GI



I

AB The photoreceptor comprises a support coated with a photosensitive layer contg. distyryl compd. I [Ar1-2, Ar5-6 = aryl; Ar3-4 = arylene; X = arylene, divalent heterocycle; .gtoreq.1 pair of adjacent C atoms in Ar1-6 and X are substituted with (CH₂)₄], a charge-generating agent, and a binder. The **image** forming app. using the photoreceptor is claimed. I shows good compatibility with binder resin and shows good **charge-transporting** property, and the photoreceptor shows high sensitivity and low fog.

IT 610768-09-7P 610768-10-0P
(electrophotog. photoreceptor contg. distyryl compd. as **charge-transporting** agent)

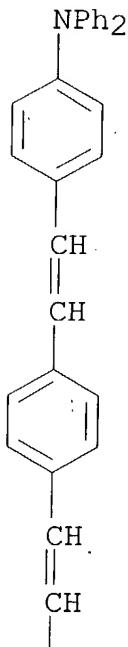
RN 610768-09-7 HCA

CN 1-Naphthalenamine, N-[4-[2-[4-[2-[4-(diphenylamino)phenyl]ethenyl]phenyl]ethenyl]phenyl]-5,6,7,8-tetrahydro-N-phenyl- (9CI) (CA INDEX NAME)

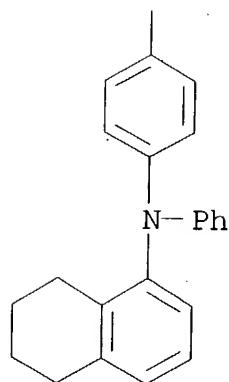
Date 10/734,380

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PAGE 1-A



PAGE 2-A



RN 610768-10-0 HCA

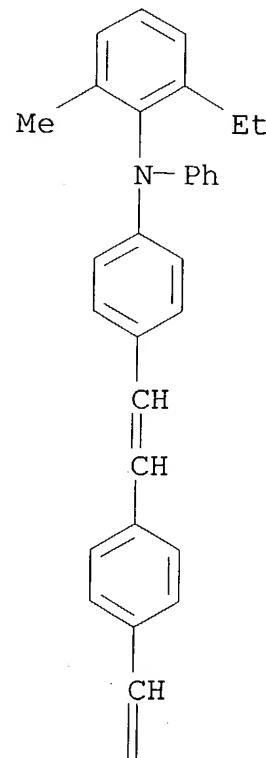
CN 1-Naphthalenamine, N-[4-[2-[4-[2-[4-[(2-ethyl-6-methylphenyl)phenylamino]phenyl]ethenyl]phenyl]ethenyl]phenyl]-

Date 10/734, 380

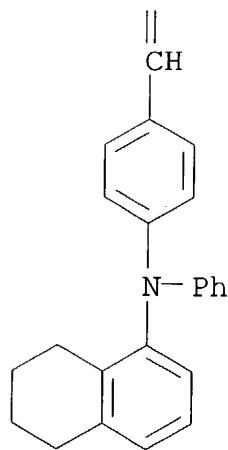
Page 14

5, 6, 7, 8-tetrahydro-N-phenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IC ICM G03G005-06
 ICS G03G005-05
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 ST electrophotog photoreceptor distyryl compd **charge**
transporting agent
 IT Polycarbonates, uses
 (binder; electrophotog. photoreceptor contg. distyryl compd. as
charge-transporting agent)
 IT Electrophotographic photoconductors (photoreceptors)
 (electrophotog. photoreceptor contg. distyryl compd. as
charge-transporting agent)
 IT 610768-09-7P 610768-10-0P
 (electrophotog. photoreceptor contg. distyryl compd. as
charge-transporting agent)
 IT 178477-23-1 610768-11-1 610768-12-2
 (prepn. of distyryl compd. **charge-transporting**
 agent)

L37 ANSWER 6 OF 25 HCA COPYRIGHT 2004 ACS on STN

139:314423 Electrophotographic apparatus of high sensitivity and good durability on repeated uses, their photoreceptors, and distyryl derivatives therefor. Inagaki, Yoshio (Kyocera Mita Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003286234 A2 20031010, 63 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-89148 20020327.

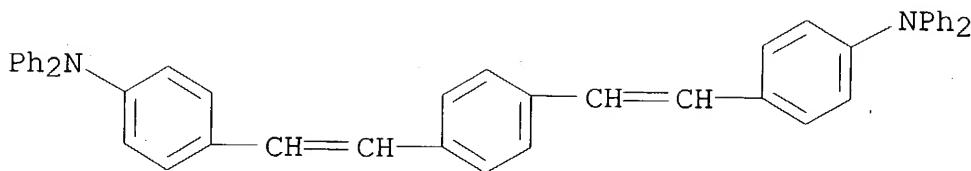
AB Distyryl compds. Ar₁Ar₂NAr₃CH:CHXCH:CHAR₄NAr₅Ar₆ (Ar₁, Ar₂, Ar₅, Ar₆ = aryl; Ar₃, Ar₄ = arylene, bivalent heterocycle; Ar₁-Ar₆ is spiro hydrocarbon contg. tetrahydro ring), showing good compatibility with binder resins and large **charge** **mobility** are claimed. in photoconductive layers which may include Z-type polycarbonates. Photoreceptors having photoconductive layers contg. the derivs. (and Z-type polycarbonates) are also claimed. The electrophotog. app. keep high sensitivity and suppress **image** fogging in repeated uses.

IT 55035-42-2P 119564-31-7P 332411-36-6P
 611199-76-9P

(photoreceptors contg. spiro ring-contg. distyryl **hole**
transporting agents)

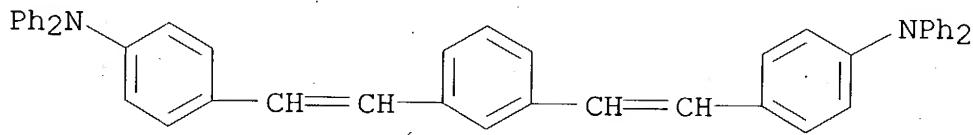
RN 55035-42-2 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)



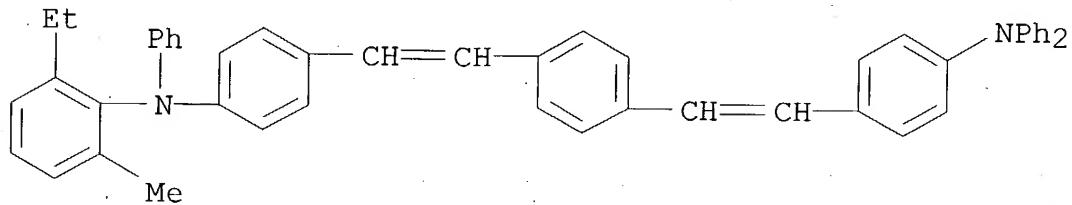
RN 119564-31-7 HCA

CN Benzenamine, 4,4'-(1,3-phenylenedi-2,1-ethenediyl)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)]



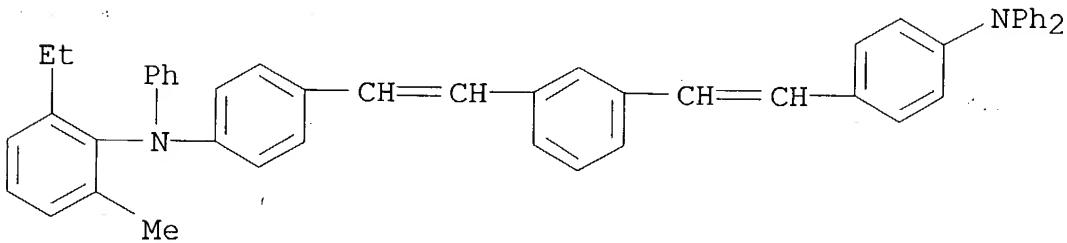
RN 332411-36-6 HCA

CN Benzenamine, 4-[2-[4-[2-[4-(diphenylamino)phenyl]ethenyl]phenyl]ethenyl]-N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



RN 611199-76-9 HCA

CN Benzenamine, 4-[2-[3-[2-[4-(diphenylamino)phenyl]ethenyl]phenyl]ethenyl]-N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



IC ICM C07C211-54

ICS G03G005-05; G03G005-06

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST Section cross-reference(s): 25
 electrophotog photoreceptor distyryl **hole**
transporting agent; tetrahydro spiro distyryl **hole**
transporter photoreceptor; polycarbonate binder compatible
 distyryl electrophotog photoreceptor

IT Polycarbonates, uses
 (Z, binders; photoreceptors contg. spiro ring-contg. distyryl
hole transporting agents)

IT Electrophotographic apparatus
 Electrophotographic photoconductors (photoreceptors)
 (photoreceptors contg. spiro ring-contg. distyryl **hole**
transporting agents)

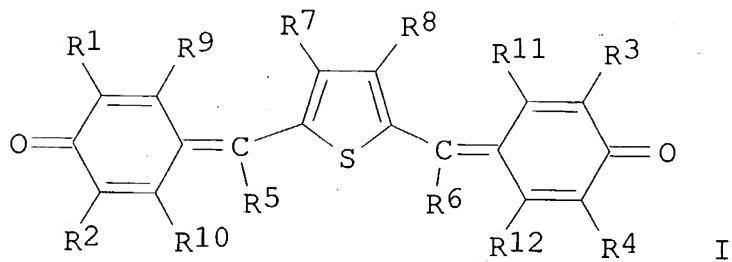
IT 55035-42-2P 119564-31-7P 332411-36-6P
 611199-76-9P
 (photoreceptors contg. spiro ring-contg. distyryl **hole**
transporting agents)

IT 610767-77-6 610768-11-1 610768-12-2
 (photoreceptors contg. spiro ring-contg. distyryl **hole**
transporting agents)

L37 ANSWER 7 OF 25 HCA COPYRIGHT 2004 ACS on STN

139:157354 Positive-charging electrophotographic photoreceptor showing excellent electric property and stable performance and electrophotographic apparatus. Ohkura, Kenichi; Ueno, Yoshihiro; Kuroda, Masami; Sekine, Nobuyuki (Fuji Electric Imaging Device Co., Ltd., Japan). Ger. Offen. DE 10303760 A1 20030807, 18 pp. (German). CODEN: GWXXBX. APPLICATION: DE 2003-10303760 20030130. PRIORITY: JP 2002-27236 20020204; JP 2002-35570 20020213.

GI



AB The title electrophotog. photoreceptor contains an **electron transport** compd. represented by I (R1-4, R9-12 = H, C1-12-alkyl, C1-6-cyclic alkyl, aryl, alkoxy; R5, R6 = H, C1-12-alkyl, aryl, heterocyclyl; R7, R8 = H, C1-12-alkyl, C1-6-aryl, alkoxy) in a photosensitive layer. The photoreceptor contains a specified styryl compd. as a **charge transport**

substance and a specified phthalocyanine compd. as a charge generation compd.

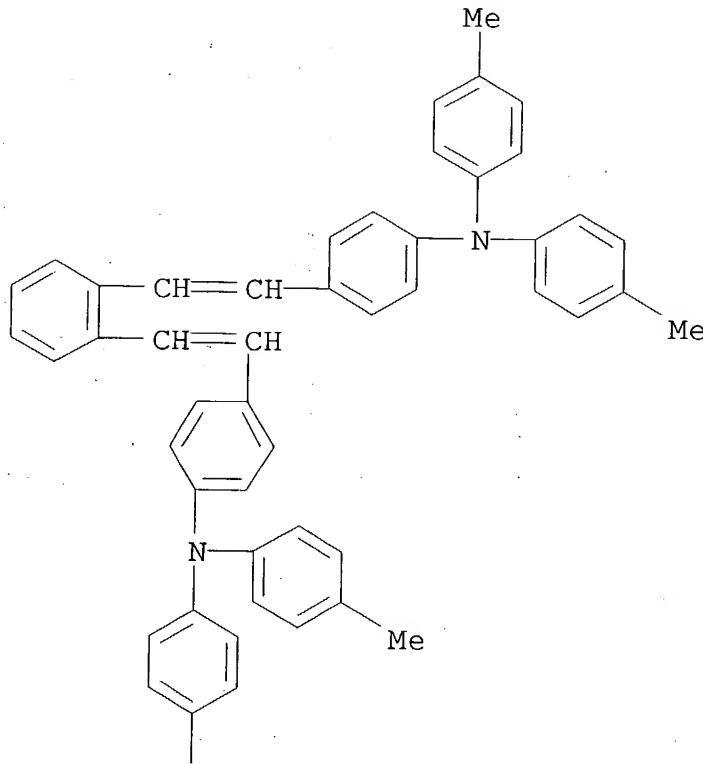
IT 55035-45-5

(charge transport substance in pos.-charging
electrophotog. photoreceptor showing excellent elec. property and
stable performance)

RN 55035-45-5 HCA

CN Benzenamine, 4,4'-(1,2-phenylenedi-2,1-ethenediyl)bis[N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)]

PAGE 1-A



Me
|

PAGE 2-A

IC ICM G03G005-047

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and

ST Other Reprographic Processes)
 electrophotog photoreceptor photoconductor **electron**
transport compd **imaging** app
 IT 55035-45-5 65181-78-4 89114-91-0
 (charge **transport** substance in pos.-charging
 electrophotog. photoreceptor showing excellent elec. property and
 stable performance)
 IT 566937-99-3 566938-02-1
 (**electron transport** compd. in pos.-charging
 electrophotog. photoreceptor showing excellent elec. property and
 stable performance)
 IT 201011-64-5P 566937-97-1P
 (**electron transport** compd. in pos.-charging
 electrophotog. photoreceptor showing excellent elec. property and
 stable performance)
 IT 27329-74-4 72612-47-6, 2,5-Dibenzoylthiophene 72612-54-5,
 2,5-Dithenoylthiophene
 (prepn. of **electron transport** compd. for
 pos.-charging electrophotog. photoreceptor showing excellent
 elec. property and stable performance)

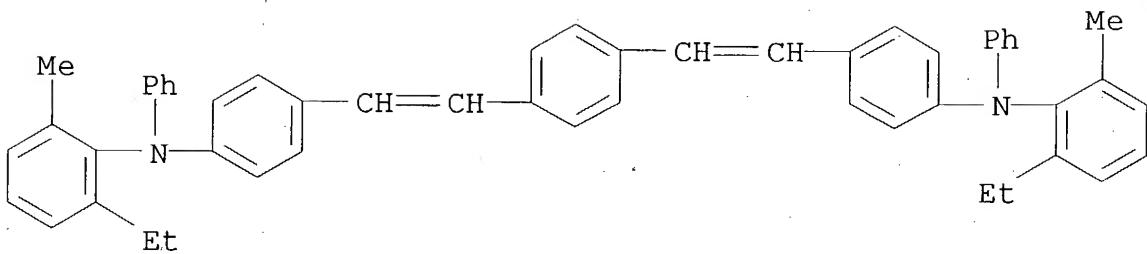
L37 ANSWER 8 OF 25 HCA COPYRIGHT 2004 ACS on STN

138:311491 Electrophotographic **image**-forming apparatus having
 specific weight ratio of **electron**- and **hole**-
transporting materials in light-sensitive layer. Azuma,
 Jun; Watanabe, Yukimasa; Yashima, Ayako (Kyocera Mita Industrial
 Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003107759 A2
 20030409, 13 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP
 2001-300152 20010928.

AB The title app. has an org. photoreceptor having a light sensitive
 monolayer, which contains a charge-generating compd., a **hole**
transporting compd., and an **electron**-
transporting compd. in a binder, on an electroconductive
 support, a charging device for the photoreceptor, an exposure device
 for the photoreceptor, a reverse development device, and a
image-transfer device, wherein the exposure device has
 modulation driver circuit taking \geq 3 values and wherein the
 wt. ratio of (the **electron**-**transporting**
 compd.)/(the **hole**-**transporting** compd.) is
 \geq 0.7. The app. provides **images** of good tone.
 reprodn. and high d. for long time.

IT 254897-50-2
 (**hole**-**transporting** compd.; light-sensitive
 layer in electrophotog. photoreceptor)

RN 254897-50-2 HCA
 CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-
 methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



IC ICM G03G005-05
 ICS G03G005-06; G03G015-04; G03G015-043
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 ST electrophotog **image** app
 IT Electrophotographic apparatus
 (electrophotog. **image**-forming app.)
 IT 189197-19-1
 (electron-transporting compd.;
 light-sensitive layer in electrophotog. photoreceptor)
 IT 254897-50-2
 (hole-transporting compd.; light-sensitive
 layer in electrophotog. photoreceptor)

L37 ANSWER 9 OF 25 HCA COPYRIGHT 2004 ACS on STN

138:9617 **Image**-forming apparatus using **electron-**
transporting agent having high **electron**
mobility. Azuma, Jun; Fujishima, Masayuki; Watanabe,
 Yukimasa; Yashima, Ayako; Nagashima, Takashi (Kyocera Mita
 Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002341603
 A2 20021129, 15 pp. (Japanese). CODEN: JKXXAF.

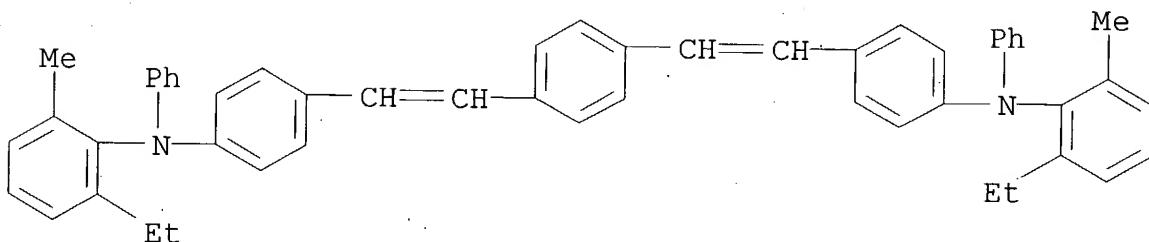
APPLICATION: JP 2001-147848 20010517.

AB The **image**-forming app. comprises an org. photoreceptor
 drum, a charging device, an exposure device, a development device, a
image-transfer device, and a toner-cleaning device, in which
 the org. photoreceptor drum contains a charge-generating agent, an
electron-transporting agent, a **hole-**
transporting agent, and a binder resin in a photosensitive
 layer. A **mobility** of the **electron-**
transporting agent is $\geq 1.0 \text{ cm}^2/\text{V}\cdot\text{s}$ at a
 field intensity $5 \text{ V}/\text{cm}$. A solid fraction d. of the
 binder resin is 50-70% of the total solid fraction d. The binder
 resin is a polycarbonate resin. The charging device charges the
 drum at $+350\text{--}550\text{V}$. The exposure device exposes the drum at
 $0.75\text{--}1.5 \mu\text{J}/\text{cm}^2$. The toner-cleaning device uses a blade.

IT 254897-50-2
 (electron-transporting agent; org.
 electrophotog. photoreceptor from)

RN 254897-50-2 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



IC ICM G03G015-00

ICS G03G005-05; G03G005-06; G03G015-02; G03G015-04

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38

ST electrophotog **image** forming app polycarbonate binder resin; charging exposure device electrophotog app; **electron transporting** agent **mobility** org electrophotog photoreceptorIT Electrophotographic apparatus
(**image**-forming app. using **electron-transporting** agent having high **electron mobility**)IT Electrophotographic photoconductors (photoreceptors)
(org.; **electron -transporting** agent and polycarbonate binder resin in)IT 2455-14-3 34711-52-9 131079-92-0 140681-19-2 189197-19-1
249286-21-3 254897-50-2 265104-49-2 270578-51-3
476621-32-6 476621-33-7 476621-34-8
(**electron-transporting** agent; org.
electrophotog. photoreceptor from)

L37 ANSWER 10 OF 25 HCA COPYRIGHT 2004 ACS on STN

137:239714 Electrophotosensitive material. Uchida, Maki; Okada, Hideki (Kyocera Mita Corporation, Japan). Eur. Pat. Appl. EP 1241529 A2, 20020918, 27 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR. (English). CODEN: EPXXDW. APPLICATION: EP 2002-251689 20020311. PRIORITY: JP 2001-67904 20010312.

AB The invention relates to an electrophotosensitive material featuring an intermediate layer interposed between a conductive substrate and a photosensitive layer and contg. a binder resin and a **charge transport** material having a mol. wt. of >400. The intermediate layer has a const. thickness because

the intermediate layer can be formed by, for example, dip coating a coating soln. contg. the above two components on the conductive substrate without suffering much flow-down of the coating soln. Hence, overlaying the photosensitive layer on the intermediate layer provides an electrophotosensitive material capable of offering favorable, fog-free images.

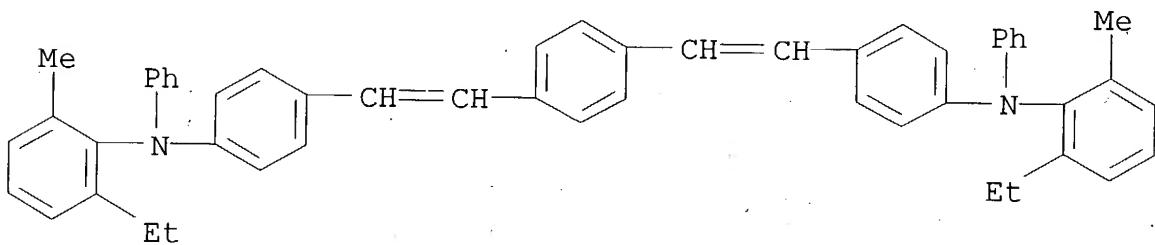
IT 254897-50-2 459170-10-6

(charge transport material;

electrophotosensitive material for electrophotog. copying contg.)

RN 254897-50-2 HCA

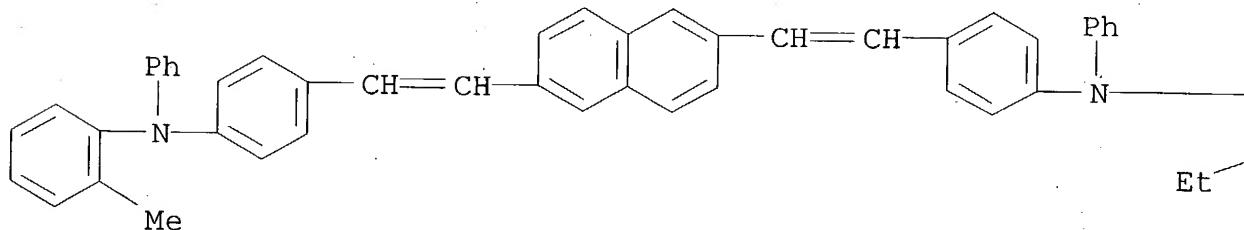
CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



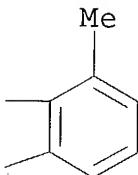
RN 459170-10-6 HCA

CN Benzenamine, N-(2-ethyl-6-methylphenyl)-4-[2-[6-[2-[4-[(2-methylphenyl)phenylamino]phenyl]ethenyl]-2-naphthalenyl]ethenyl]-N-phenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



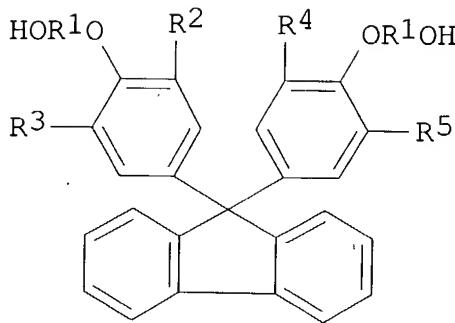
PAGE 1-B



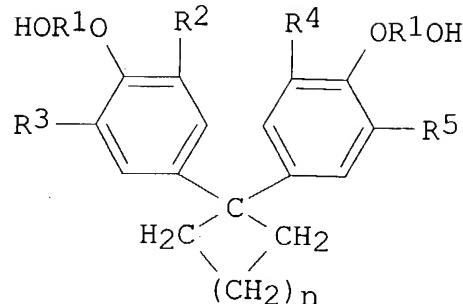
IC ICM G03G005-14
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 Section cross-reference(s): 38
 ST electrophotog binder **charge transport** material
 IT 105465-13-2 151026-65-2 167377-13-1 168091-65-4
254897-50-2 334634-19-4 **459170-10-6**
 (**charge transport** material;
 electrophotosensitive material for electrophotog. copying contg.)
 IT 2455-14-3, 3,3',5,5'-Tetra-tert-butyl-4,4'-diphenquinone
 (**electron transport** material;
 electrophotosensitive material for electrophotog. copying contg.)
 IT 124591-08-8, N,N,N',N'-Tetrakis(3-methylphenyl)1,3-diaminobenzene
 (**hole transport** material;
 electrophotosensitive material for electrophotog. copying contg.)

L37 ANSWER 11 OF 25 HCA COPYRIGHT 2004 ACS on STN
 136:361782 Single layer-type electrophotographic photoreceptor used for
 wet-development-type **image**-forming apparatus. Azuma, Jun;
 Watanabe, Yukimasa; Sako, Hiroyuki; Nakamura, Kyoichi; Uchida, Maki;
 Urano, Akiyoshi (Kyocera Mita Industrial Co., Ltd., Japan). Jpn.
 Kokai Tokkyo Koho JP 2002131943 A2 **20020509**, 12 pp.
 (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-326520 20001026.

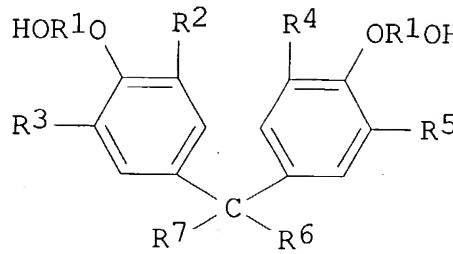
GI



I



II



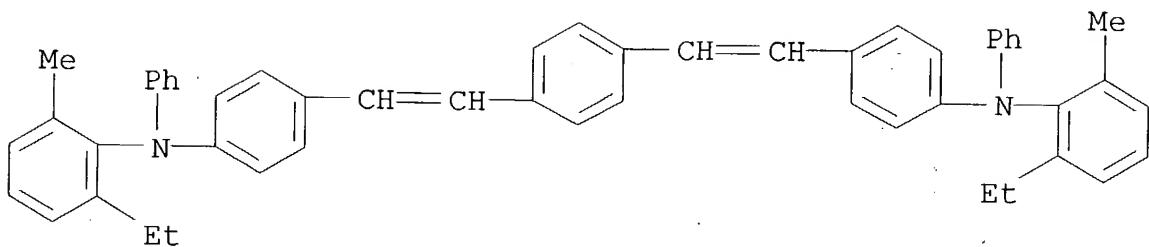
III

AB The invention relates to an electrophotog. photoreceptor without an overcoat layer which does not show a change in the outlook appearance when it is dipped in a hydrocarbon-based solvent. The electrophotog. photoreceptor comprises a photosensitive layer on an elec. conductive support made from a binder resin contg. a **charge-transporting** agent and a **charge-generating** agent, wherein (a) the binder resin a virtually linear polyester resin prep'd. from .gtoreq.1 dihydroxy compd. selected from I-III (R1 = C2-4 alkylene; R2-5 = H, C1-4 alkyl, aryl, aralkyl; n.gtoreq.2; R6,7 = C1-10 alkyl) and a naphthalenedicarboxylic acid, (b) the **charge-transporting** agent includes an **electron-transporting** agent and a **hole-transporting** agent, and (c) a developer contains a toner dispersed in a hydrocarbon-based solvent. The charge-generating agent may include a phthalocyanine pigment.

IT 254897-50-2 256660-35-2 286851-40-9
(**hole-transporting** agent; single layer-type electrophotog. photoreceptor from)

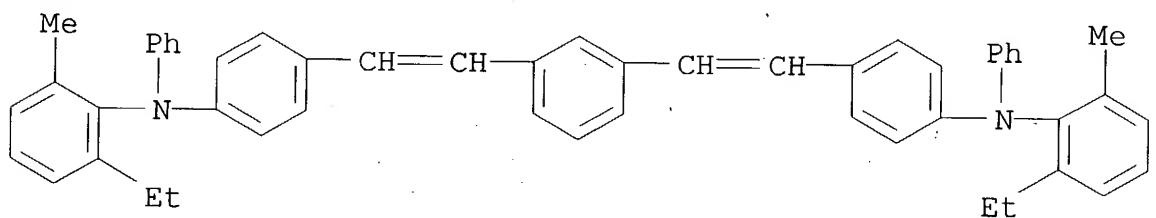
RN 254897-50-2 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



RN 256660-35-2 HCA

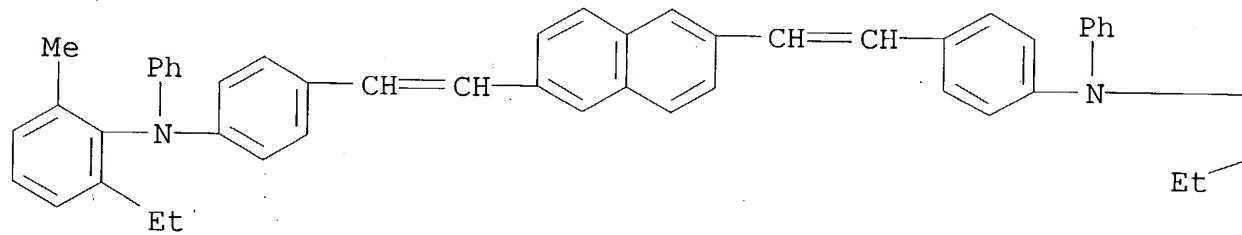
CN Benzenamine, 4,4'-(1,3-phenylenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



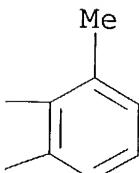
RN 286851-40-9 HCA

CN Benzenamine, 4,4'-(2,6-naphthalenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



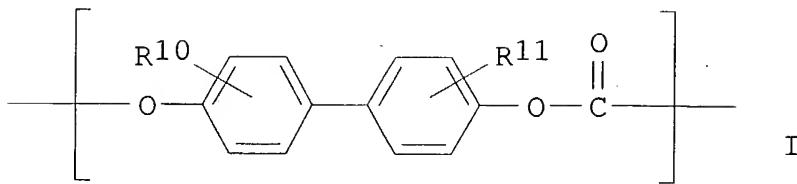
PAGE 1-B



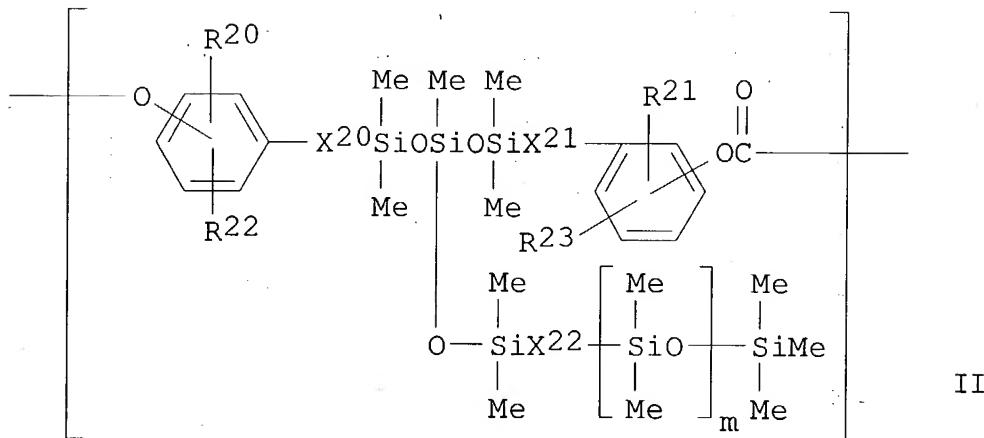
IC ICM G03G005-05
ICS G03G005-06; G03G009-12
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
Section cross-reference(s): 38, 41
ST electrophotog photoreceptor wet development **image** forming
app; polyester binder electrophotog photoreceptor; **charge**
transporting agent electrophotog photoreceptor;
phthalocyanine pigment charge generating agent electrophotog
photoreceptor
IT Electrophotographic photoconductors (photoreceptors)
(single layer-type electrophotog. photoreceptor used for
wet-development-type **image**-forming app.)
IT 189197-19-1 334634-19-4 395089-88-0
(**electron-transporting** agent; single
layer-type electrophotog. photoreceptor from)
IT 124591-08-8 168091-65-4 254897-50-2 256660-35-2
286851-40-9
(**hole-transporting** agent; single layer-type
electrophotog. photoreceptor from)

L37 ANSWER 12 OF 25 HCA COPYRIGHT 2004 ACS on STN
136:316893 Electrophotographic photoreceptor for wet development
image formation. Azuma, Jun; Sako, Hiroyuki; Watanabe,
Yukimasa; Honma, Toshikazu; Yashima, Ayako; Uchida, Maki; Nakamura,
Kyoichi; Miyamoto, Eiichi (Kyocera Mita Industrial Co., Ltd.,
Japan). Jpn. Kokai Tokkyo Koho JP 2002116560 A2 **20020419**,
11 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-310967
20001011.

GI



I



II

AB The photoreceptor comprises an electroconductive support coated with a photosensitive layer contg. a charge-generating agent, a **charge-transporting** agent, and a polycarbonate having repeating unit(s) I (R10-11 = H, C1-3 alkyl) and optionally II [X20-22 = (CH₂)_n; n = 1-6; R20-23 = H, Ph, C1-3 alkyl, alkoxy; m = 0-200] as a binder, and used in wet development using a developer contg. toner particles dispersed in a hydrocarbon solvent. The photoreceptor shows good solvent resistance on wet development.

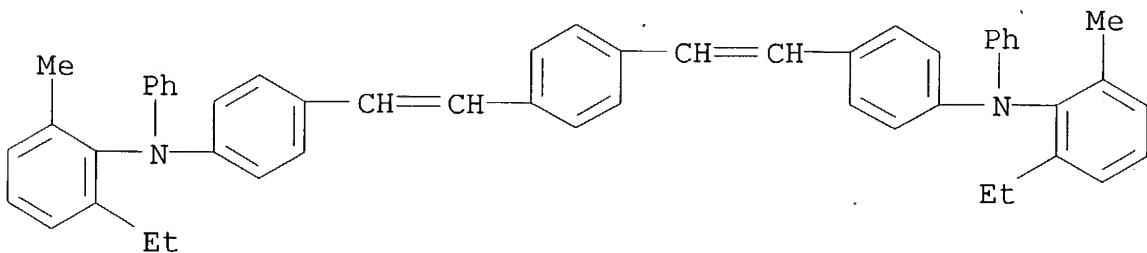
IT 254897-50-2 256660-35-2 286851-40-9

(pos. **hole-transporting** agent; electrophotog.

photoreceptor using polycarbonate binder for wet development)

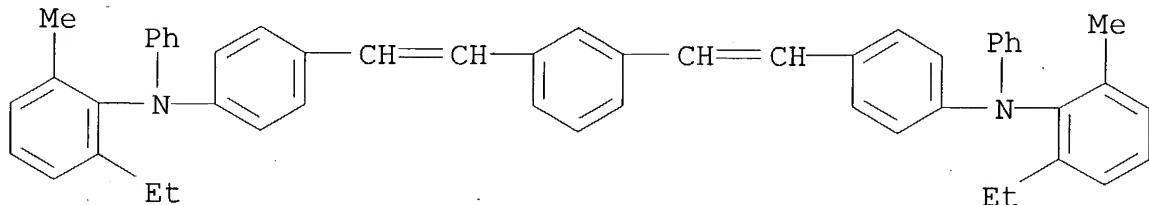
RN 254897-50-2 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



RN 256660-35-2 HCA

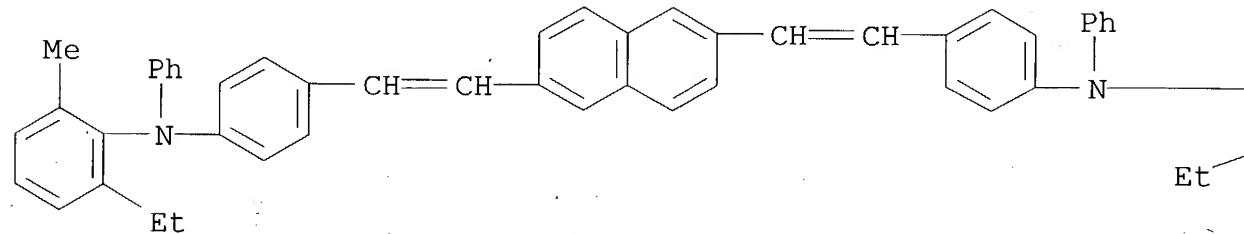
CN Benzenamine, 4,4'-(1,3-phenylenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



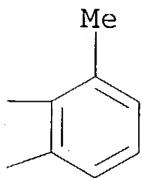
RN 286851-40-9 HCA

CN Benzenamine, 4,4'-(2,6-naphthalenediyl-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM G03G005-05

ICS G03G005-06

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38

IT 286851-41-0 395089-88-0

(electron-transporting agent; electrophotog.

photoreceptor using polycarbonate binder for wet development)

IT 124591-08-8 168091-65-4 254897-50-2 256660-35-2

286851-40-9

(pos. **hole-transporting** agent; electrophotog.
photoreceptor using polycarbonate binder for wet development)

L37 ANSWER 13 OF 25 HCA COPYRIGHT 2004 ACS on STN
 135:378702 Electrophotographic photoreceptor having controlled carrier mobility. Tamura, Yukihisa (Fuji Electric Imaging Device Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001324825 A2 20011122, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-316612 20001017. PRIORITY: JP 2000-66756 20000310.

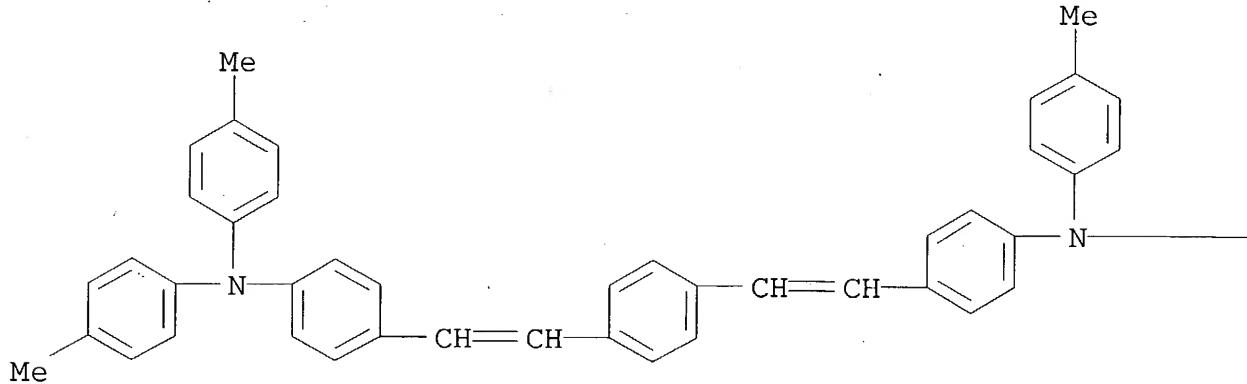
AB The photoreceptor has 15-35 μm -thick photosensitive layer and satisfies $\mu\text{.} = \mu\text{.}0 \cdot \text{times. En}$ ($\mu\text{.} = \text{carrier mobility}$; $E = \text{elec field}$; $\mu\text{.}0 = \text{const.}; n \cdot 1 \leq 0.6$). The photoreceptor shows rapid response, high resoln., and gives clear images without background fog and memory phenomena.

IT 55035-43-3
 (charge-transporting agent; electrophotog.
photoreceptor having controlled carrier mobility)

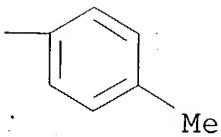
RN 55035-43-3 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



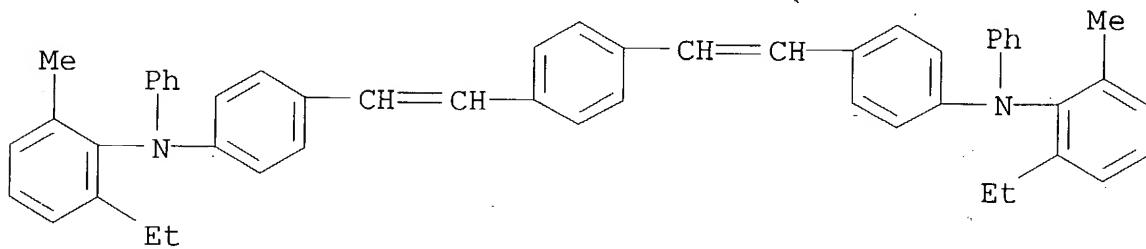
PAGE 1-B



IC ICM G03G005-04
 ICS G03G005-06
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 IT 55035-43-3
 (charge-transporting agent; electrophotog. photoreceptor having controlled carrier mobility)

L37 ANSWER 14 OF 25 HCA COPYRIGHT 2004 ACS on STN
 135:336893 Single-layer electrophotographic photoreceptors and reversal development-type digital **imaging** apparatus containing them. Imanaka, Yukikatsu; Iwasaki, Hiroaki; Tanaka, Yuji; Hayashi, Masakatsu (Kyocera Mita Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001305755 A2 20011102, 10 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-131501 20000426.
 AB The photoreceptors, showing reduced exposure memory effect and transfer memory effect, have layers contg. binders, phthalocyanine compds., **hole-transporting** materials, and **electron-transporting** materials on elec. conductive substrates and satisfy the abs. difference of sensitivity (780 nm, 1.0 .mu.J/cm²) in the pos. polarity and neg. polarity .ltoreq.500 V. Stilbenes and quinones are preferably used as the **hole-transporting** materials and the **electron-transporting** materials, resp. The photoreceptors are useful for the **image**-forming app. (such as copiers, facsimiles, and laser printers) which have no means for elec. discharge.
 IT 254897-50-2
 (hole-transporting material; single-layer electrophotog. photoreceptors for reversal development-type digital **imaging** app. with reduced memory **image** formation)
 RN 254897-50-2 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



IC ICM G03G005-04

ICS G03G005-06

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST photoreceptor reversal development digital **imaging** app; electrophotog photoreceptor sensitivity transfer memory redn; phthalocyanine polycarbonate photoreceptor exposure memory redn

IT Polycarbonates, uses
(bisphenol Z-type; single-layer electrophotog. photoreceptors for reversal development-type digital **imaging** app. with reduced memory **image** formation)

IT Electrophotographic apparatus

Electrophotographic photoconductors (photoreceptors)
(single-layer electrophotog. photoreceptors for reversal development-type digital **imaging** app. with reduced memory **image** formation)

IT 131079-92-0 189197-19-1, Benzyl 3-phenyl-1,4-naphthoquinone-2-carboxylate 212607-53-9 212607-58-4 212607-63-1 325834-55-7 370106-52-8

(electron-transporting material; single-layer electrophotog. photoreceptors for reversal development-type digital **imaging** app. with reduced memory **image** formation)

IT 254897-50-2

(hole-transporting material; single-layer electrophotog. photoreceptors for reversal development-type digital **imaging** app. with reduced memory **image** formation)

IT 574-93-6, Phthalocyanine 26201-32-1, Titanylphthalocyanine (single-layer electrophotog. photoreceptors for reversal development-type digital **imaging** app. with reduced memory **image** formation)

single layer-type electrophotographic photoreceptor. Tanaka, Yuji; Imanaka, Yukikatsu; Akiba, Nobuko (Kyocera Mita Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001255678 A2 20010921, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-72445 20000310.

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

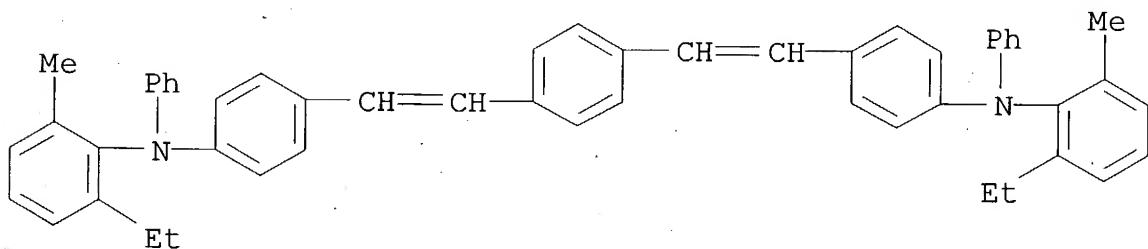
AB The invention relates to an electrophotog. photoreceptor used in a reverse development-type digital **image**-forming app. The title **image**-forming app. comprises a charge-neutralizing device disposed at the downstream of an **image**-transfer device and at the upstream of the cleaning device. A photosensitive layer formed on the electrophotog. photoreceptor contains an **electron-transporting** substance such as a compd. represented by I (R_{1,2} = monovalent hydrocarbon) and a **hole**-**transporting** substance such as II (R_{7,9} = alkyl, aryl; R_{8,9} = H, alkoxy).

IT 254897-50-2

(**image**-forming app. for pos. chargeable single layer-type electrophotog. photoreceptor)

RN 254897-50-2 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



IC ICM G03G005-06

ICS G03G005-06

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST electrophotog photoreceptor **electron hole** **transporting** substanceIT Electrophotographic photoconductors (photoreceptors)
(**image**-forming app. for pos. chargeable single layer-type electrophotog. photoreceptor)

IT 126657-30-5 168091-65-4 189197-19-1 212607-63-1 251979-06-3
254897-50-2 334634-19-4

(image-forming app. for pos. chargeable single layer-type electrophotog. photoreceptor)

L37 ANSWER 16 OF 25 HCA COPYRIGHT 2004 ACS on STN
 135:218690 Positive-charging single-layer electrophotographic photoconductor showing no transfer memory effect and excellent gas-resistance. Tanaka, Yuji; Imanaka, Yukikatsu; Akiba, Nobuko (Kyocera Mita Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001242656 A2 20010907, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-54341 20000225.

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* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

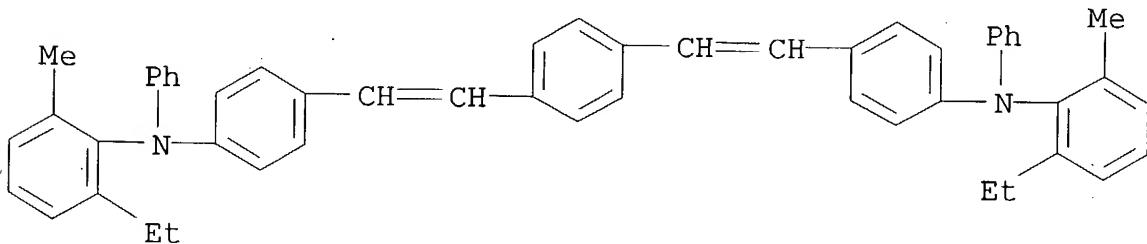
AB The title electrophotog. photoconductor contains phthalocyanine pigment as an electron generation substance, an **electron transport** substance selected from I (R₁, R₂ = hydrocarbon substituent), II (R₃, R₄ = alkyl, haloalkyl, aryl, aralkyl, alkoxy, aryloxy, aralkyloxy, acyl, alkoxy carbonyl, aryloxy carbonyl, aralkyloxy carbonyl, nitro; n = 0-3), and III (R₅, R₆ = hydrocarbon substituent), and a terphenyl pigment IV (R₇₋₉ = H, alkyl, aryl, amino). The photoconductor also contains a specified **hole transport** substance (Markush structures are given). The photoconductor is suitable for use in a reversal development type digital **imaging** app.

IT 254897-50-2

(**hole transport** substance in pos.-charging single-layer electrophotog. photoconductor showing no transfer memory effect and excellent gas-resistance)

RN 254897-50-2 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



IC ICM G03G005-06
 ICS G03G005-06; G03G005-05
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 ST electrophotog photoconductor **electron transport**
 substance terphenyl pigment; **hole transport**
 substance electrophotog photoconductor digital **imaging** app
 IT 212607-53-9 212607-63-1 249286-21-3 251979-06-3 252060-99-4
 334634-19-4
 (electron transport substance in pos.-charging single-layer electrophotog. photoconductor showing no transfer memory effect and excellent gas-resistance)
 IT 168091-65-4 **254897-50-2**
 (hole transport substance in pos.-charging single-layer electrophotog. photoconductor showing no transfer memory effect and excellent gas-resistance)

L37 ANSWER 17 OF 25 HCA COPYRIGHT 2004 ACS on STN
 135:218689 Positive-charging single-layer electrophotographic photoconductor showing no transfer memory effect. Tanaka, Yuji; Imanaka, Yukikatsu; Akiba, Nobuko (Kyocera Mita Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2001242655 A2 20010907, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-54342 20000225.

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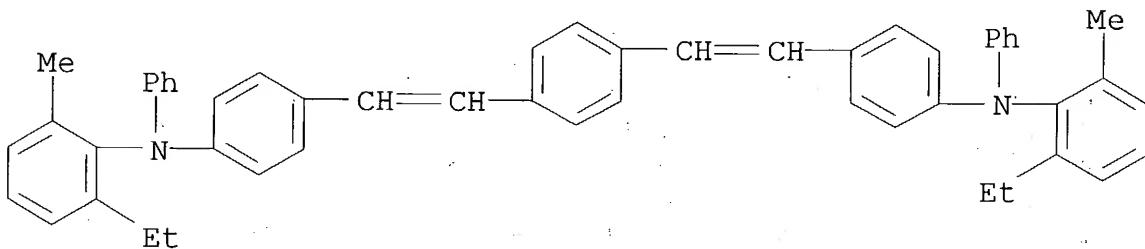
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The title electrophotog. photoconductor contains a phthalocyanine pigment as an electron generation substance, an **electron transport** substance selected from I (R₁, R₂ = hydrocarbon substituent), II (R₃, R₄ = alkyl, haloalkyl, aryl, aralkyl, alkoxy, aryloxy, aralkyloxy, acyl, alkoxy carbonyl, aryloxy carbonyl, aralkyloxy carbonyl, nitro; n = 0-3), and III (R₅, R₆ = hydrocarbon substituent), and a perylene pigment IV (R₇₋₁₀ = H, alkyl, aryl, aralkyl, amino), wherein the wt. ratio of perylene/phthalocyanine is lying .1toreq.1. The photoconductor also contains a specified **hole transport** substance (Markush structures are given). The photoconductor is suitable for use in a reversal development type digital **imaging** app.

IT **254897-50-2**
 (hole transport substance in pos.-charging single-layer electrophotog. photoconductor showing no transfer memory effect)

RN **254897-50-2 HCA**

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



IC ICM G03G005-06

ICS G03G005-06; G03G005-05.

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST electrophotog photoconductor **electron transport**
substance perylene pigment; **hole transport**

substance electrophotog photoconductor digital **imaging** app

IT 212607-63-1 251979-06-3 334634-19-4

(**electron transport** substance in
pos.-charging single-layer electrophotog. photoconductor showing
no transfer memory effect)

IT 168091-65-4 **254897-50-2**

(**hole transport** substance in pos.-charging
single-layer electrophotog. photoconductor showing no transfer
memory effect)

L37 ANSWER 18 OF 25 HCA COPYRIGHT 2004 ACS on STN

134:185904 Single-layer electrophotosensitive material and **image**
forming apparatus using it. Imanaka, Yukikatsu; Iwasaki, Hiroaki;
Tanaka, Yuji; Hayashi, Masakatsu (Kyocera Mita Corp., Japan). U.S.
US 6190812 B1 **20010220**, 14 pp. (English). CODEN: USXXAM.

APPLICATION: US 2000-595906 20000620.

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* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The present invention provides a single-layer electrophotosensitive material contg. a conductive substrate and a photosensitive layer consisting of (1) a phthalocyanine compd. as an elec. charge generating material, (2) a **hole transport** material and (3) an **electron transport** material in a binder resin, and that a difference in abs. value between a

plus polarity sensitivity and a minus polarity sensitivity measured under the conditions of an exposure wavelength of 780 nm and an exposure energy of 1.0 $\mu\text{J}/\text{cm}^2$ is not more than 500 V, and a reversal development type digital **image** forming app. using the electrophotosensitive material, which does not include a charge neutralizing step. The **hole transport** material is represented by I (R1 and R3 = alkyl, aralkyl, alkoxy; R2 and R4 = H, alkyl, alkoxy). The **electron transport** material is represented by II (R5 = halogen, alkyl, aryl, R6 = alkyl, alkoxy); III (R7 and R8 = the same or different substituents, n = 0-3); IV (R9-R12 = H, alkyl, aryl); V (R13-R14 = the same or different substituents, n = 0-3).

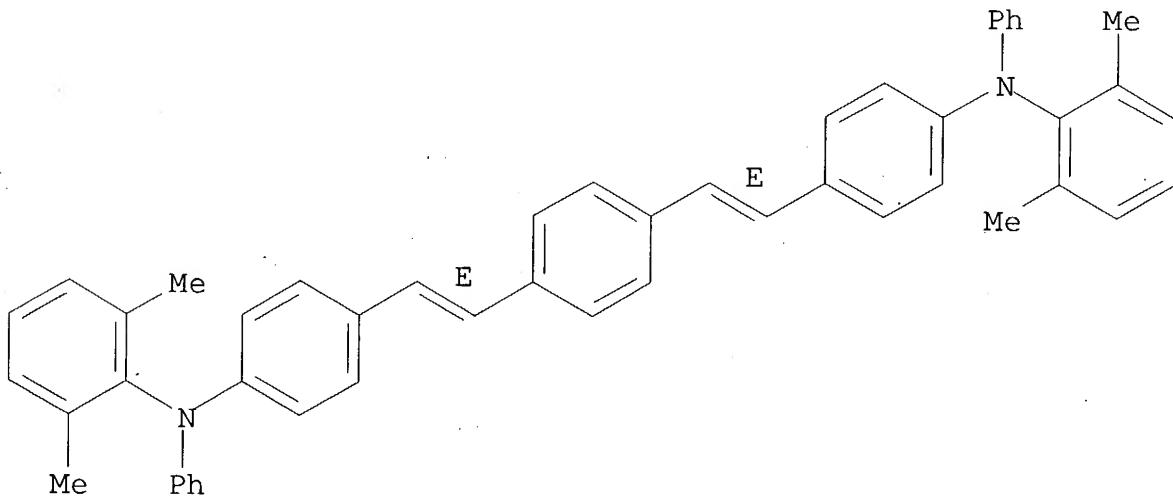
IT 325834-56-8

(**hole transport** material; single-layer electrophotosensitive material for electrophotog. copying and laser printing and facsimile application contg. **hole-** and **electron transport** compds. and phthalocyanine charge generator)

RN 325834-56-8 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-(1E)-2,1-ethenediyl)bis[N-(2,6-dimethylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

IC ICM G03G005-09
ICS G03G013-22

NCL 43.0083000

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST electrophotog single layer **imaging** material **hole**
electron transport; phthalocyanine charge

generator **hole electron transport**
compd electrophotog photoconductor

IT Polycarbonates, uses
(binder; single-layer electrophotosensitive material for electrophotog. copying and laser printing and facsimile application contg. **hole- and electron transport** compds. and phthalocyanine charge generator)

IT Electrophotographic apparatus
(reversal development type digital **image** forming app. using single-layer material contg. **hole- and electron transport** compds. and phthalocyanine charge generator without charge neutralizing step)

IT Electrophotography
(reversal development type digital **image** forming using single-layer material contg. **hole- and electron transport** compds. and phthalocyanine charge generator without charge neutralizing step)

IT Electrophotographic photoconductors (photoreceptors)
(single-layer electrophotosensitive material for electrophotog. copying and laser printing and facsimile application contg. **hole- and electron transport** compds. and phthalocyanine charge generator)

IT 574-93-6, 29H,31H-Phthalocyanine 26201-32-1
(charge generating material; single-layer electrophotosensitive material for electrophotog. copying and laser printing and facsimile application contg. **hole- and electron transport** compds. and phthalocyanine charge generator)

IT 188771-38-2 189197-19-1 212607-53-9 212607-58-4 212607-63-1
325834-55-7 325834-57-9 325834-58-0
(**electron transport** material; single-layer electrophotosensitive material for electrophotog. copying and laser printing and facsimile application contg. **hole- and electron transport** compds. and phthalocyanine charge generator)

IT 325834-56-8
(**hole transport** material; single-layer electrophotosensitive material for electrophotog. copying and laser printing and facsimile application contg. **hole- and electron transport** compds. and phthalocyanine charge generator)

L37 ANSWER 19 OF 25 HCA COPYRIGHT 2004 ACS on STN

133:357221 Electrophotographic photoreceptors and electrophotographic apparatus. Okura, Kenichi; Kitagawa, Seizo; Takeuchi, Masaru (Fuji Denki Kazo Device K. K., Japan). Jpn. Kokai Tokkyo Koho JP 2000314969 A2 20001114, 74 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-125133 19990430.

AB The photoreceptors comprise a conductive substrate, an optional

primer layer, and a monolayer photosensitive layer contg. a resin binder, a charge generator, a **hole transporter**, an **electron transporter**, and a biphenyl deriv.

Preferable Markush structures for the biphenyls, **electron transporters**, **hole transporters**, and binders are also given. Electrophotog. app. which work by pos. charge process and comprising of the claimed photoreceptors is also claimed. App. giving clear **images** even after repeated printing is obtained.

IT 208042-87-9 306742-39-2 306742-41-6

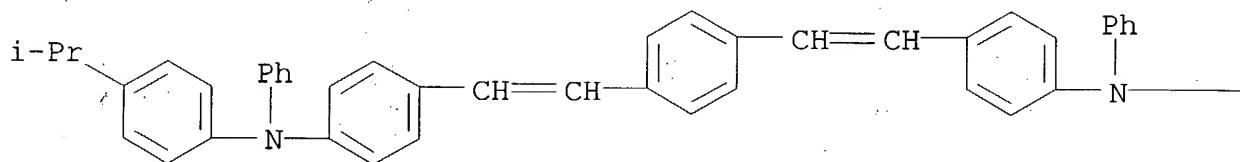
(**hole transporter**; electrophotog.

photoreceptors contg. biphenyl derivs. for stable, repeated printing)

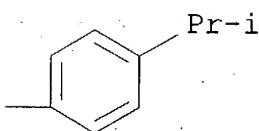
RN 208042-87-9 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N-[4-(1-methylethyl)phenyl]-N-phenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

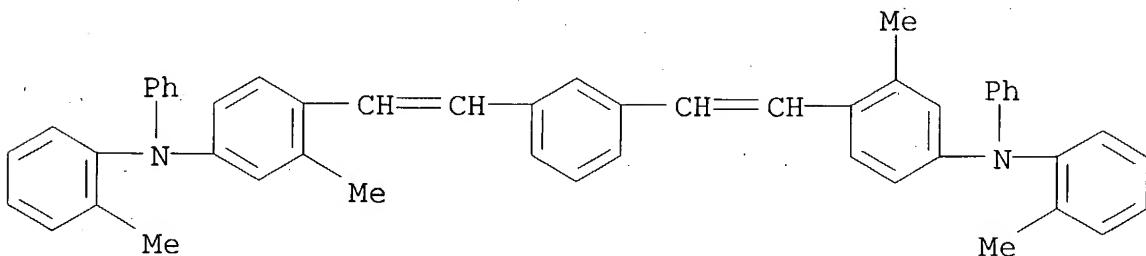


PAGE 1-B



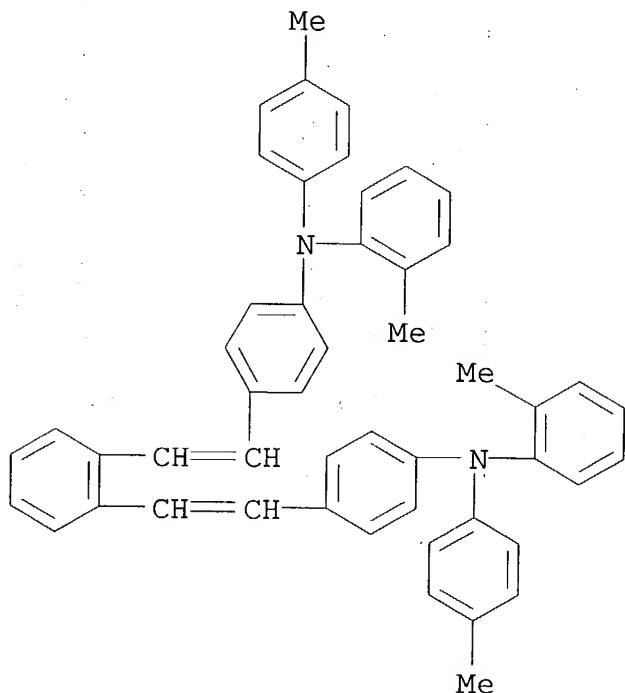
RN 306742-39-2 HCA

CN Benzenamine, 4,4'-(1,3-phenylenedi-2,1-ethenediyl)bis[3-methyl-N-(2-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



RN 306742-41-6 HCA

CN Benzenamine, 4,4'-(1,2-phenylenedi-2,1-ethenediyl)bis[N-(2-methylphenyl)-N-(4-methylphenyl)- (9CI) (CA INDEX NAME)



IC ICM G03G005-06

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 4584-63-8 67821-33-4 126657-30-5 126980-24-3 148808-97-3
150639-07-9 189197-19-1 198880-98-7 201854-59-3 213672-33-4
265104-47-0 270578-51-3 306742-25-6

(electron transporter; electrophotog.

photoreceptors contg. biphenyl derivs. for stable repeated printing)

IT 65181-78-4 90884-12-1 103079-11-4 119344-29-5 121671-22-5
127446-78-0 131783-25-0 132571-92-7 147850-54-2 164155-42-4
208042-87-9 306742-39-2 306742-41-6
306742-42-7

(hole transporter; electrophotog.

photoreceptors contg. biphenyl derivs. for stable repeated printing)

L37 ANSWER 20 OF 25 HCA COPYRIGHT 2004 ACS on STN

132:100410 Negative-charging monolayer-type electrophotographic photoreceptor using substrate having interference fringe-prevention

layer. Fukami, Toshiyuki; Fujii, Atsushi (Mita Industrial Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2000019748 A2 20000121, 18 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-226623 19980701.

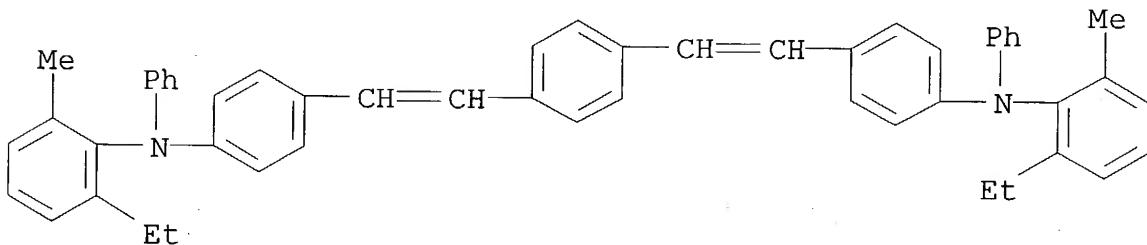
AB In the electrophotog. photoreceptor comprising an elec. conductive substrate having a photosensitive layer contg. a charge-generating pigment, a pos. **hole-transporting** agent, an **electron-transporting** agent, and a binder, the photosensitive layer is light transmittable and the surface of the substrate has a interference fringe preventing layer at the photosensitive layer side. The photoreceptor shows high photosensitivity, good photo-response and gives clear **images**

IT 254897-50-2

(pos. **hole transporting** agent; electrophotog. photoreceptor using substrate having interference fringe-prevention layer and light transmitting photosensitive layer)

RN 254897-50-2 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N-(2-ethyl-6-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



IC ICM G03G005-04

ICS G03G005-06; G03G005-14

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 2417-00-7 126657-30-5 171258-57-4 251979-06-3 252060-99-4
254897-45-5 254897-46-6 254897-47-7

(**charge-transporting** agent; electrophotog.

photoreceptor using substrate having interference fringe-prevention layer and light transmitting photosensitive layer)

IT 105465-13-2 124591-08-8 179063-38-8 254897-48-8
254897-50-2

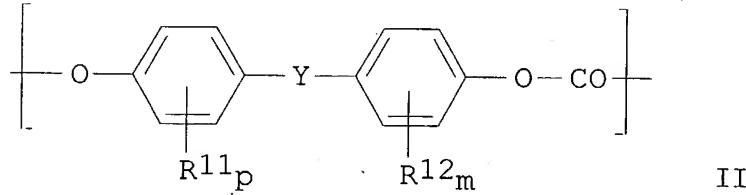
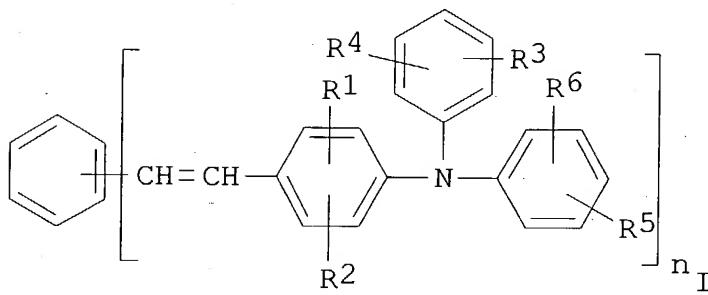
(pos. **hole transporting** agent; electrophotog.

photoreceptor using substrate having interference fringe-prevention layer and light transmitting photosensitive layer)

L37 ANSWER 21 OF 25 HCA COPYRIGHT 2004 ACS on STN

130:102861 Electrophotographic photoconductor and electrophotographic apparatus using the same. Ohkura, Kenichi; Takeuchi, Masaru (Fuji Electric Co., Ltd., Japan). Ger. Offen. DE 19829055 A1 19990107, 18 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1998-19829055 19980629. PRIORITY: JP 1997-173459 19970630.

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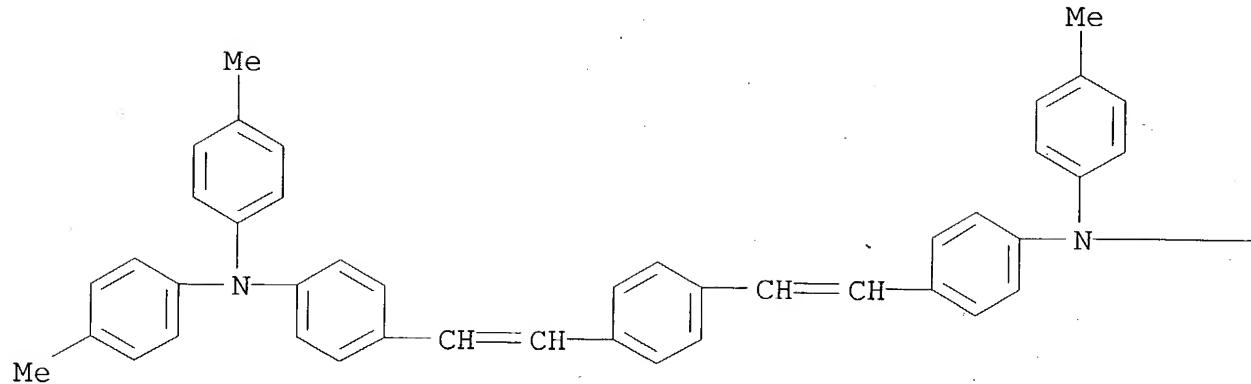
AB The electrophotog. photoconductor comprises a conductive support, and on the substrate a photoconductor film comprised of a charge generation layer and a **charge transport** layer, wherein the **charge transport** layer contains a **charge transport** material I (R1-6 = C1-4-alkyl; n = 2-4) and at least 1 binder material II (Y = single bond, O, CO, S, SO₂, CR₂₁R₂₂, C₅-7 1,1-cycloalkylidene; R₁₁, R₁₂ = H, C₁-6 alkyl, C₆-12 aryl; m, p = 0-4; R₂₁, R₂₂ = H, C₁-6 alkyl, C₆-12 aryl). The conductor improves **image** quality and shows improved durability.

IT 55035-43-3 55035-45-5 127374-49-6
(**charge transport** material in electrophotog. photoconductor)

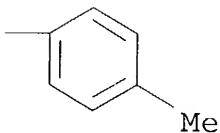
RN 55035-43-3 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



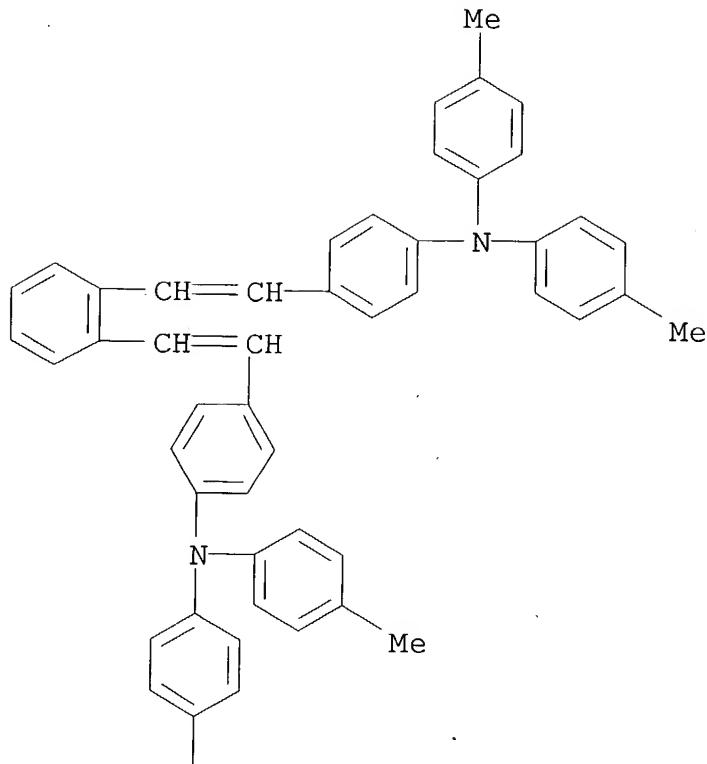
PAGE 1-B



RN 55035-45-5 HCA

CN Benzenamine, 4,4'-(1,2-phenylenedi-2,1-ethenediyl)bis[N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)]

PAGE 1-A



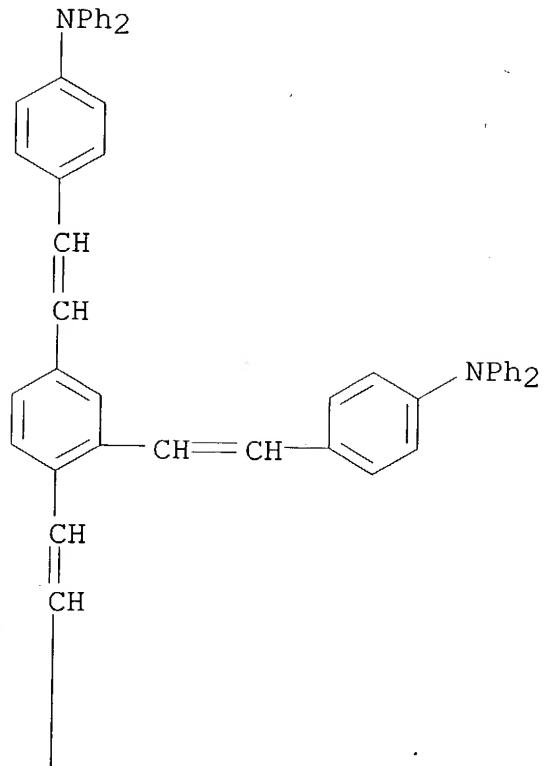
PAGE 2-A



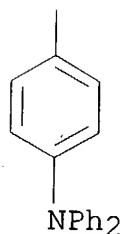
RN 127374-49-6 HCA

CN Benzenamine, 4,4',4'''-(1,2,4-benzenetriyltri-2,1-ethenediyl)tris[N,N-diphenyl- (9CI) (CA INDEX NAME)]

PAGE 1-A



PAGE 2-A

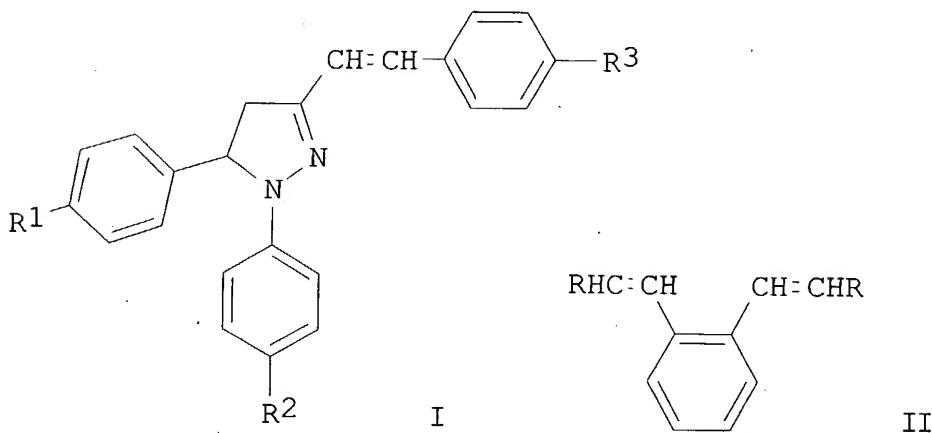


IC ICM G03G005-047
IC S ICS G03G005-05
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and
Other Reprographic Processes)
ST electrophotog photoconductor charge transport
material polycarbonate binder
IT 55035-43-3 55035-45-5 127374-49-6

(charge transport material in electrophotog. photoconductor)

L37 ANSWER 22 OF 25 HCA COPYRIGHT 2004 ACS on STN
129:182078 Electrophotographic photoreceptor with high-sensitivity and
superior durability for high quality **images**. Ikegami,
Takaaki; Umeda, Minoru; Sakon, Yota; Kurimoto, Eiji (Ricoh Co.,
Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 10213915 A2
19980811 Heisei, 267 pp. (Japanese). CODEN: JKXXAF.
APPLICATION: JP 1997-43127 19970128.

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AB The title photoreceptor has a photosensitive layer contg. **charge-transporting** material of .gtoreq.1 compd. from I (R1, R3 = H, lower alkyl, lower alkoxy, lower dialkyl amino; R2 = H, lower alkyl, lower alkoxy, halo, nitro; n = 0, 1) and .gtoreq.1 compd. from II (R = carbazolyl, pyridyl, thienyl, indolyl, furil, (substituted)phenyl, (substituted)styryl, (substituted)naphthyl, (substituted)anthryl with the substituent as lower dialkyl amino, lower alkyl, lower alkoxy, halo, aralkyl amino, amino) on an elec. conductive substrate.

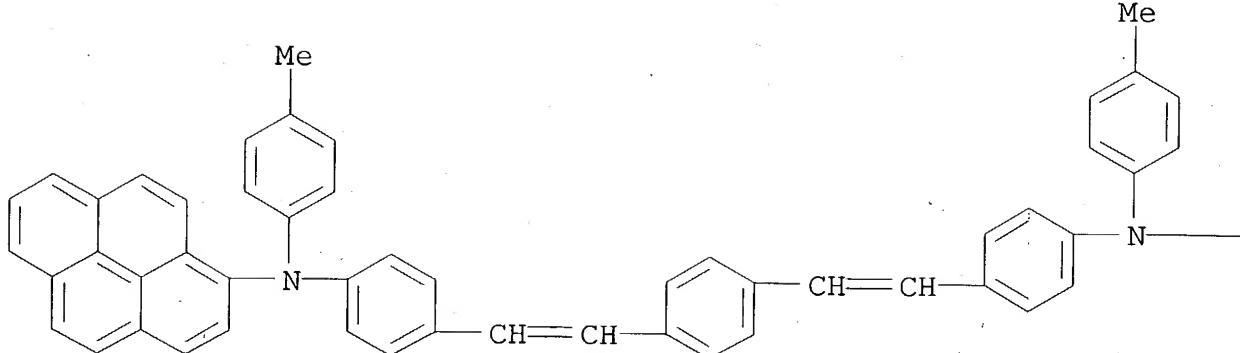
IT 157358-00-4

(combined with other **charge-transporting** material for electrophotog. photoreceptor with high-sensitivity and superior durability)

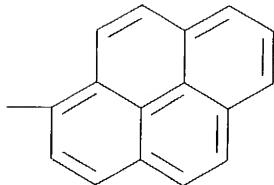
RN 157358-00-4 HCA

CN 1-Pyrenamine, N,N'-(1,4-phenylenebis(2,1-ethenediyl-4,1-phenylene)]bis[N-(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM G03G005-06
 ICS G03G005-06

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)

ST electrophotog photoreceptor **charge transporting**
 material

IT Electrophotographic photoconductors (photoreceptors)
 (contg. 2 kinds of specified **charge-**
transporting material)

IT	1159-53-1	1679-98-7	1874-45-9	4316-53-4	36809-23-1
	65272-89-1	65419-21-8	65419-29-6	70366-94-8	77317-24-9
	78014-47-8	79096-24-5	88439-40-1	88740-81-2	95226-63-4
	117933-18-3	118076-60-1	119564-40-8	119564-46-4	121671-02-1
	123521-36-8	123521-38-0	124373-59-7	124537-78-6	125681-59-6
	128965-04-8	128965-05-9	129119-43-3	129970-68-9	130746-04-2
	130746-11-1	131059-46-6	131625-67-7	131852-82-9	133637-75-9
	134917-81-0	135071-77-1	135198-98-0	135722-63-3	136052-05-6
	136052-08-9	136578-69-3	137716-81-5	138510-79-9	138689-62-0

139153-64-3	139184-14-8	139184-25-1	139184-32-0	139211-82-8
139905-76-3	139905-81-0	142641-62-1	142773-14-6	142773-16-8
142773-17-9	143764-87-8	143877-71-8	143877-75-2	152594-07-5
157358-00-4	158604-98-9	159390-50-8	159390-64-4	
163969-27-5	167308-80-7	206661-58-7	206661-61-2	211429-25-3
211429-26-4	211429-27-5	211429-28-6	211429-29-7	211429-30-0
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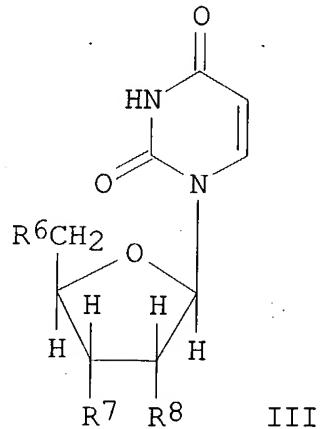
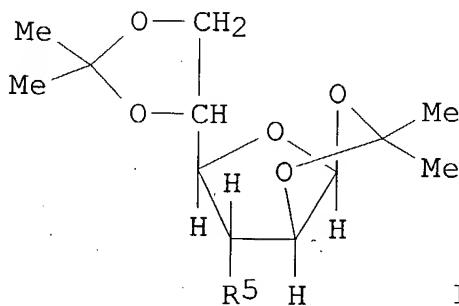
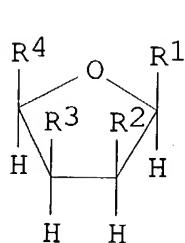
(combined with other **charge-transporting**
material for electrophotog. photoreceptor with high-sensitivity
and superior durability)

L37 ANSWER 23 OF 25 HCA COPYRIGHT 2004 ACS on STN

126:82194 Electrophotographic photoreceptor containing antioxidant.

Yamazaki, Mikio; Maruyama, Shigeru; Nabeta, Osamu (Fuji Electric Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 08254842 A2 **19961001**
Heisei, 32 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP
1995-57002 19950316.

GT



AB The photoreceptor comprises a support coated with an org. photosensitive layer contg. an antioxidant I, II, and/or III [R1-8 = alkyl, benzoyl, aryl, arom. ring, arom. heterocycle, (all may be substituted), H, OH, acetyl, alkoxy]. The photoreceptor shows good durability in repeated use and gives clear **images**.

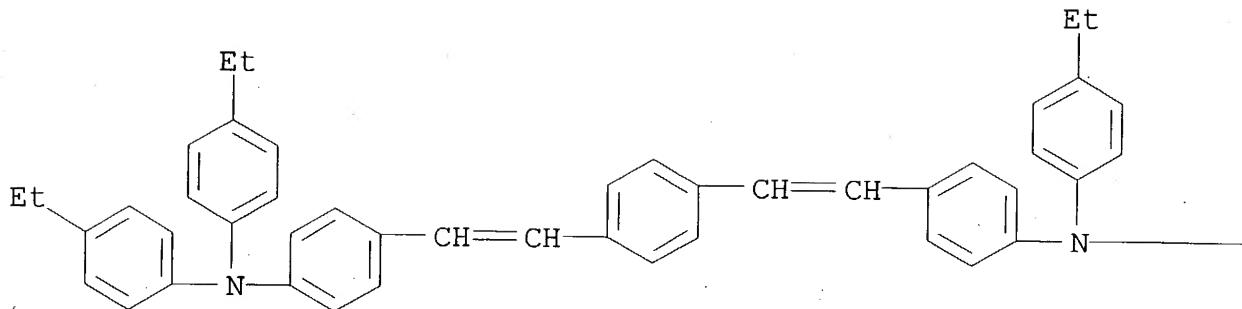
IT **185122-79-6**

(**charge-transporting** agent; electrophotog.
photoreceptor contg. furan deriv. antioxidant)

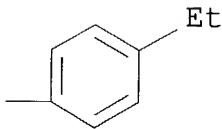
RN 185122-79-6 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N,N-bis(4-ethylphenyl)- (9CI) (CA INDEX NAME)

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IC ICM G03G005-05
 ICS G03G005-06

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)

IT 1450-63-1D, derivs. 15546-43-7D, derivs. 88237-23-4D, derivs.
 89114-90-9D, derivs. **185122-79-6**
 (charge-transporting agent; electrophotog.
 photoreceptor contg. furan deriv. antioxidant)

L37 ANSWER 24 OF 25 HCA COPYRIGHT 2004 ACS on STN

115:218831 Electrophotographic photoreceptor using acetylene derivative
 charge-transporting agent. Makino, Naonori;
 Hoshi, Satoshi; Kitatani, Katsushi (Fuji Photo Film Co., Ltd.,
 Japan). Jpn. Kokai Tokkyo Koho JP 03075659 A2 **19910329**
 Heisei, 14 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP
 1989-212081 19890817.

AB The title photoreceptor comprises an elec. conductive support with a
 coating of a photosensitive layer contg. .gtoreq.1 acetylene deriv.
 RC.tplbond.CZC.tplbond.CR1 (I; R, R1 = arom. carbocyclic ring or
 heterocyclic arom. ring; Z = arylene, divalent condensed polycyclic

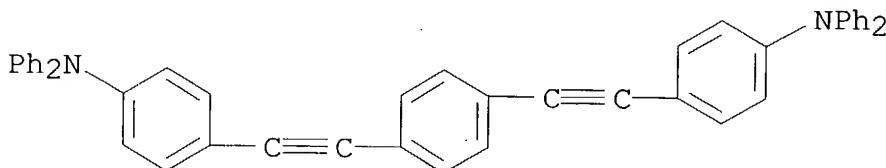
arom. ring, divalent heterocyclic arom. ring). The photoreceptor shows good photosensitivity and durability and provides uniform images. Thus, an Al substrate was coated with a Se charge-generating layer by vacuum deposition, and with a charge-transporting layer contg. I (R = R1 = p-C₆H₄NPh₂, Z = p-phenylene) to give a photoreceptor.

IT 136993-88-9 136993-89-0 136993-90-3
136993-92-5 136993-93-6 136993-94-7
136994-00-8 136994-01-9

(charge-transporting agent, electrophotog. photoreceptor contg.)

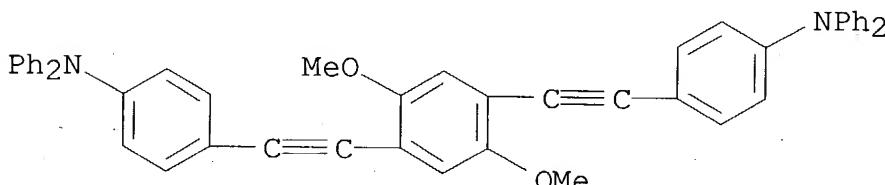
RN 136993-88-9 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethynediyl)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)]



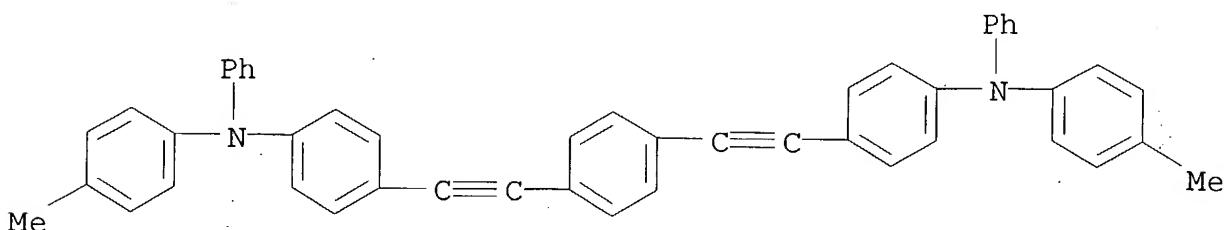
RN 136993-89-0 HCA

CN Benzenamine, 4,4'-(2,5-dimethoxy-1,4-phenylene)di-2,1-ethynediyl]bis[N,N-diphenyl- (9CI) (CA INDEX NAME)]



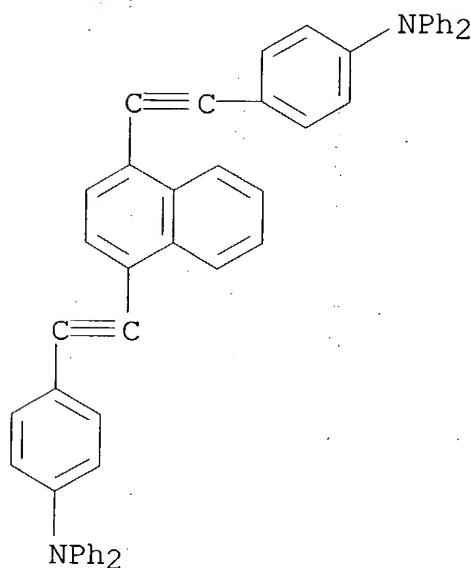
RN 136993-90-3 HCA

CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethynediyl)bis[N-(4-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)]



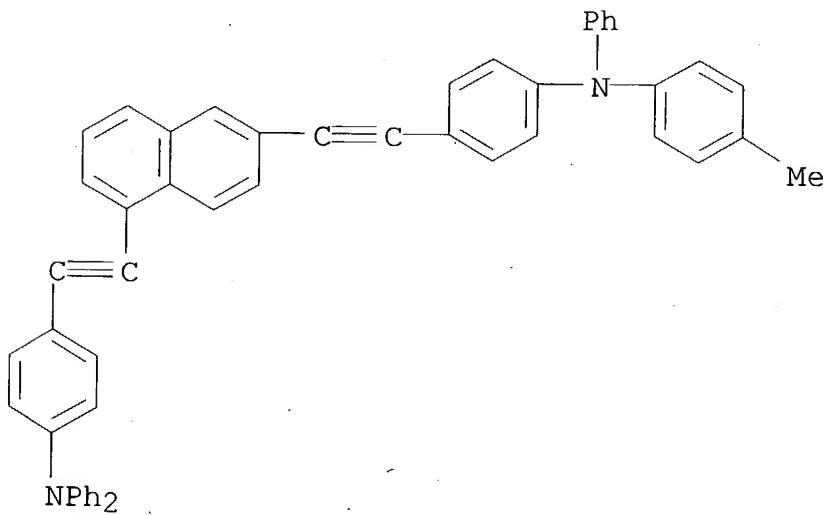
RN 136993-92-5 HCA

CN Benzenamine, 4,4'-(1,4-naphthalenediyldi-2,1-ethynediyl)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)



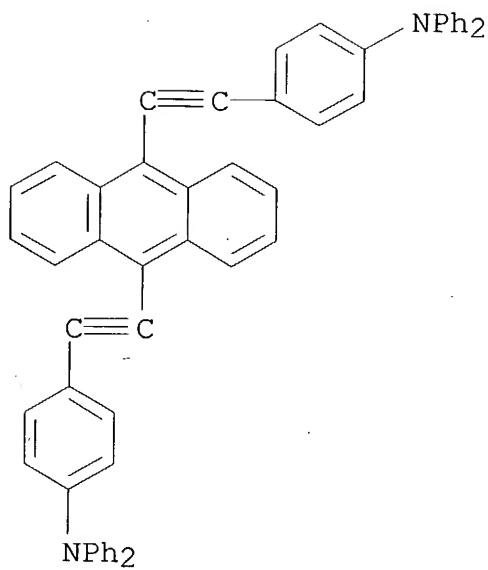
RN 136993-93-6 HCA

CN Benzenamine, 4-[[5-[[4-(diphenylamino)phenyl]ethynyl]-2-naphthalenyl]ethynyl]-N-(4-methylphenyl)-N-phenyl- (9CI) (CA INDEX NAME)



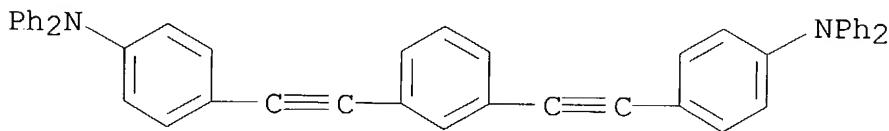
RN 136993-94-7 HCA

CN Benzenamine, 4,4'-(9,10-anthracenediyldi-2,1-ethynediyl)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)



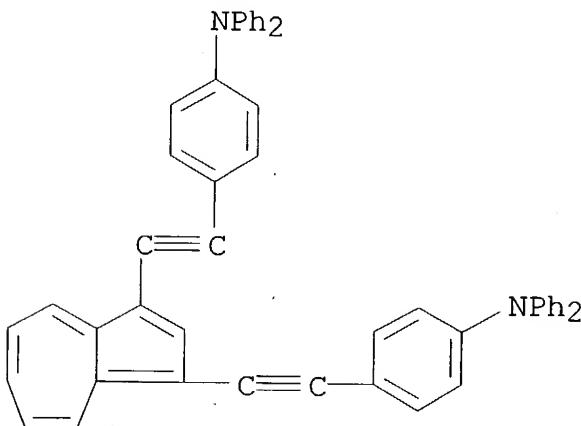
RN 136994-00-8 HCA

CN Benzenamine, 4,4'-(1,3-phenylenedi-2,1-ethynediyl)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)]



RN 136994-01-9 HCA

CN Benzenamine, 4,4'-(1,3-azulenediyldi-2,1-ethynediyl)bis[N,N-diphenyl- (9CI) (CA INDEX NAME)]



IC ICM G03G005-06
 CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 ST electrophotog photoreceptor **charge transporting**
 agent; acetylene **charge transporting** agent
 electrophotog
 IT Electrophotographic photoconductors
 (contg. acetylene deriv. as **charge-transporting**
 agent)
 IT 136993-88-9 136993-89-0 136993-90-3
 136993-91-4 136993-92-5 136993-93-6
 136993-94-7 136993-95-8 136993-96-9 136993-97-0
 136993-98-1 136993-99-2 136994-00-8 136994-01-9
 137015-78-2
 (**charge-transporting** agent, electrophotog.
 photoreceptor contg.)

L37 ANSWER 25 OF 25 HCA COPYRIGHT 2004 ACS on STN

86:49147 Photoconductive element exhibiting persistent conductivity.
 Bailey, David S. (UK). Research Disclosure, 149, 82-8 (No. 14941)
 (English) 1976. RD 149041 19760910. CODEN: RSDSBB: ISSN:
 0374-4353. PRIORITY: RD 1976-149041 19760910.

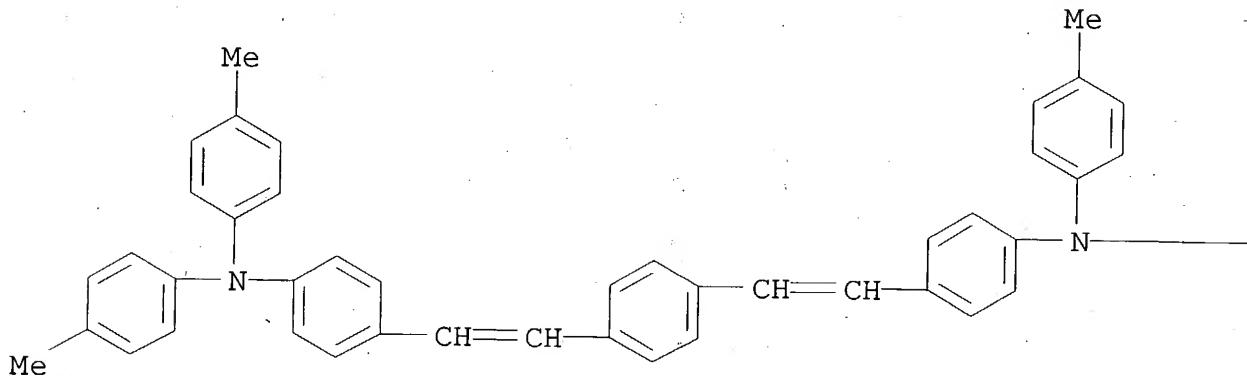
AB An electrophotog. photoconductive compn. exhibiting persistent cond.
 is comprised of a charge-generating layer contg. .gtoreq.1 pyrylium
 salt and .gtoreq.1 polymer having an alkylidene diarylene group as a
 repeating unit and a **charge-transporting** layer
 contg. an org. photoconductor and a protonic acid. The
 photoconductive compn. with persistent cond. produces electrostatic
 images with large voltage differentials for good
 image-background toning and has the capacity of providing a
 large no. of copies from a single exposure without the prepn. of a
 permanent master. The resultant conductive image pattern
 which may persist for many h can be erased by heating to return the
 photoconductive compn. to its original state for reuse. Thus, an
 elec. conductive film support was coated with a **charge-**
transporting layer contg. a polycarbonate (Lexan 145) 0.8,
 tri-p-tolylamine 0.53, pentafluorobenzoic acid 0.03, and CHCl₃ 9.7
 parts, dried to yield a 3-.mu. layer, overcoated with a
 charge-generating layer contg. a Bisphenol A polycarbonate 32.2,
 2,6-diphenyl-4-(4-dimethylaminophenyl)thiapyrylium perchlorate 6.80,
 and CH₂Cl₂ 1455 g, and dried to a 10-.mu. layer to give an
 electrophotog. photoconductive film which produced excellent
 persistent conductive images with low-intensity light
 exposures.

IT 55035-43-3

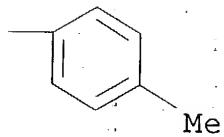
(photoconductive compns. contg. pyrylium salt, protonic acid and,
 for persistent conductive image formation for

electrophotog.)
 RN 55035-43-3 HCA
 CN Benzenamine, 4,4'-(1,4-phenylenedi-2,1-ethenediyl)bis[N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)]

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PAGE 1-B



CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)
 ST electrophotog persistent conductive **image**; photoconductor persistent cond electrophotog; protonic acid photoconductor electrophotog
 IT Photography, electro-
 (photoconductors, org., contg. protonic acids for persistent conductive **images**)
 IT 14039-00-0
 (photoconductive compns. contg. org. photoconductor, protonic acid and, for persistent conductive **image** formation for electrophotog.)

IT 24936-68-3, uses and miscellaneous
(photoconductive compns. contg. org. photoconductor, protonic acid, pyrylium salt and, for persistent conductive **image** for electrophotog.)

IT 88-89-1 96-97-9 96-99-1 99-34-3 345-16-4 602-94-8
610-27-5 610-30-0 2516-95-2
(photoconductive compns. contg. org. photoconductor, pyrylium salt and, for persistent conductive **image** formation for electrophotog.)

IT 1159-53-1 4316-51-2 **55035-43-3** 61600-38-2 61600-39-3
(photoconductive compns. contg. pyrylium salt, protonic acid and, for persistent conductive **image** formation for electrophotog.)